

Section J-8
VOCATIONAL EDUCATION RECONSTRUCTION COMPONENT
PROGRAM DESCRIPTION

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VOCATIONAL EDUCATION RECONSTRUCTION COMPONENT PROGRAM DESCRIPTION

Vision

"The overall vision of this project is to demonstrate how public/private partnerships work in vocational/technical training to facilitate qualified graduates getting and keeping jobs."

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Director, USAID/Sri Lanka

1. BACKGROUND

On December 26, 2004, a tsunami caused tremendous destruction to coastal communities across thousands of miles in South Asia. In Sri Lanka, 30,000 people were left dead, almost 4,000 were missing, and nearly 800,000 were displaced and left without basic shelter, food, and water. Coastal regions of the South and East were affected, while the North and much of the West were untouched. An outpouring of assistance from international non-government organizations (NGOs) and donors together with that of the Government of Sri Lanka (GSL) and domestic NGOs addressed the immediate emergency needs of affected populations. Five months later the focus is on reconstruction, livelihood reconstruction, and rebuilding lives with trauma counseling.

Vocational education and training centers were among the institutions destroyed or damaged by the tsunami. While restoration of this infrastructure is the impetus for the Vocational Education Reconstruction Component, prior to the disaster USAID was already focused on strengthening economic growth and increasing employment in Sri Lanka. This work was in part designed to respond to the country's reconstruction needs after 20 years of civil war and to demonstrate the value of the peace dividend. Therefore the purpose of this Component is to address Sri Lanka's immediate needs for tsunami reconstruction, while at the same time capitalizing on the opportunity to upgrade vocational education and increase employment. As Sri Lanka develops a more skilled, employable workforce, it is anticipated that standards of living will be increased and key population segments, such as young people, will be less likely to be drawn into participating in violent conflict.

EMPLOYMENT AND WORKFORCE DEVELOPMENT IN SRI LANKA

With peace at hand, the GSL strategy is to accelerate economic growth by removing barriers to productivity, increasing the number of jobs, and improving the quality of the young workforce. Unemployment was 9.8% in 2002 in the country as a whole, and 34% in the conflict-affected North and East. Unemployment and underemployment of educated youth, both secondary level (O-level and A-level completers) and university graduates, is a source of serious discontent in the country. One-third of 15-24 year olds are unemployed and almost 70% of the *employed* have less than a ninth grade education. Although Sri Lanka has attained an impressive 90% literacy rate (far higher than most developing countries), the unemployment rate of educated youth is disproportionately high.

The root causes of high levels of unemployment and underemployment of youth are: 1) insufficient economic activity to create high-skill, high-wage jobs; 2) significant mismatch between the skill requirements of the labor market and the output of the educational system; and 3) a culture that values university education over technical education, white-collar jobs over blue-collar work, and government solutions for employment over entrepreneurial self-reliant solutions. Underlying conditions that have created this labor market crisis include high repetition and drop-out rates at the secondary school level; low absorption rate of the universities; poor English language competency among youth (in part due to poor quality of instruction); duplication and poor coordination of workforce training efforts; and lack of

coordination and collaboration with the private sector. Labor laws also make it difficult for employers to hire new workers and undermine the flexibility needed for responding to the global market.

Unemployment is also biased towards females. According to the Nishan de Mel Workforce Assessment, the unemployment rate for females is twice as high as for males. Women predominate in manufacturing (65.1%), especially the garment industry, and in overseas domestic work primarily in the Middle East (68% of total migrant workers in 2000). That same year, migrant workers remitted approximately US\$1 billion to Sri Lanka, making them the largest net foreign exchange earner. Labor demand trends show that the traditional source of jobs, public sector employment, is shrinking (from 21.5% in 1990 to 13.8% in 2001), while those working for private employers increased from 33.7% to 45.4% during the same period. The Multi-Fiber Agreement will affect Sri Lanka's garment industry, likely reducing the overall number of jobs available. Construction, tourism, and service industries are all projected to be growth industries for the immediate and medium-term. Especially in the tsunami-affected regions, there is high demand for skilled construction workers.

The Vocational Education Reconstruction Component will seek to address the persistent mismatch between labor market needs and the education and training of young people. In addition to providing private sector employers with better prepared workers, the Component will also address the need to develop entrepreneurial thinking and skills among young people so that they can create their own livelihoods and spur the market to create more higher-skill, higher-wage jobs.

USAID/SRI LANKA ECONOMIC GROWTH ACTIVITIES

The Vocational Education Reconstruction Component will be implemented under the USAID/ Sri Lanka tsunami reconstruction special objective; however it should be designed to enable the USAID/Sri Lanka longer-term implementation to continue under the Economic Growth (EG) SO.

USAID/Sri Lanka, through the competitiveness component of the EG program (IR 4.2), is working with eight export industry "clusters" (tea, rubber, spices, coir, gems and jewelry, ceramics, information and communication technology (ICT), and tourism) to encourage better supply chain management, increased value addition, market promotion and brand identification. Other industry clusters have been or will be considering workforce development training options.

2. PROJECT OVERVIEW

The 30-month VERC will develop a model of vocational/technical education that is demand-driven, effective, and sustainable. USAID/Sri Lanka will renovate, rehabilitate, or reconstruct, and re-equip up to twelve existing Vocational Training Centers (VTCs) damaged by the tsunami and build two new state-of-the-art, "green" Centers. Upgraded and new Centers will be responsive to labor market needs and will address key skills gaps among Sri Lanka's unemployed youth. The Centers will forge public-private partnerships to support and inform training. The facilities themselves will be renovated and rebuilt using principles of environmentally-sound "green" architecture.

In addition to facilities renovation the VERC will implement vocational education capacity building through addressing key skills gaps in workforce training, notably English language, Information and Communication Technology, and Micro-enterprise development. Vocational education program activities will focus on curriculum, pedagogy, staffing configurations, professional development, private sector and community engagement, student ownership and leadership, job placement, and utilization of "green" elements of building design as instructional tools. All improvements will be designed to ensure long-term sustainability by the GSL, the private sector, and communities. The lead GSL partner in the project is the Vocational Training Authority (VTA) within the Ministry of Skills Development and Vocational and

Technical Education (MSDVTE). There is a possibility that development of a tourism training center may bring in partnerships with the Ministry of Tourism and the Ceylon Tourism Board.

GUIDING PRINCIPLES

Two sets of guiding principles are relevant to the VERC: those related to best practices in: 1) vocational training for workforce development and 2) the natural disaster recovery principles developed by GSL and international donors and development agencies. The contractor's design and implementation will include both, capitalizing on synergies between them.

Workforce development principles related to this Component will include:

- Demand-driven vocational education and training (Private sector demand should guide curriculum, pedagogy, and assessment of skills.)
- Public/private partnerships
- Community involvement in and use of training centers
- Competency-based, learner-centered teaching
- Encouraging entrepreneurship in students and staff
- Robust career counseling and job placement
- Gender equity
- Architectural design supportive of pedagogy
- Environmentally sound and sustainable architectural design for centers

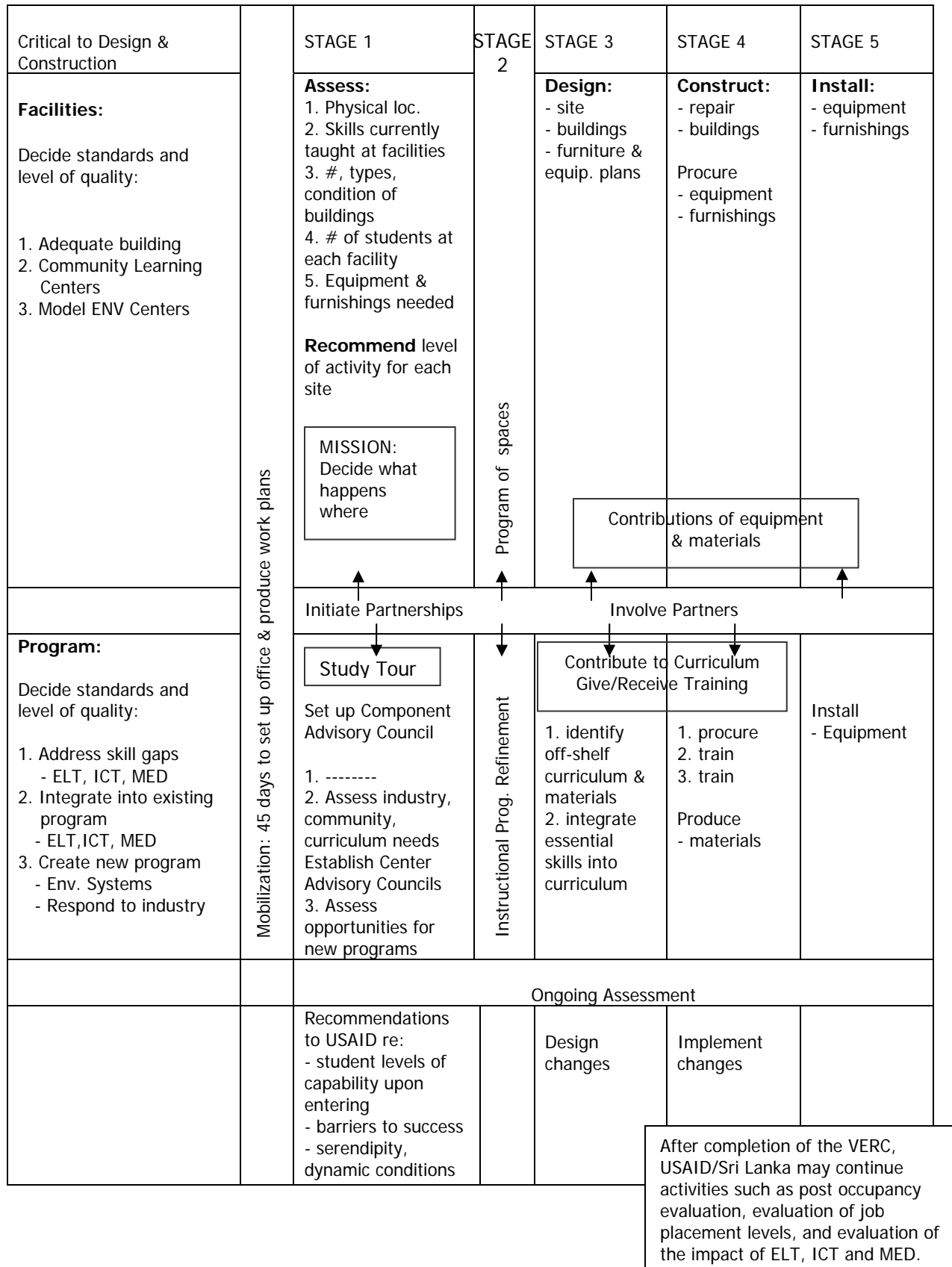
Guiding principles related to tsunami reconstruction that are relevant to this Component include:

- Conflict sensitivity
- Need-based decision-making concerning allocation of resources
- Design and implementation at the lowest appropriate tier of governance
- Community empowerment and consultation
- Communication and transparency in decision-making and implementation
- Avoidance of rebuilding vulnerability to natural hazards
- Coordination among donors, GSL, civil society organizations and international NGOs

COMPONENT STAGES

The VERC will be implemented in five Stages. Each Stage will have a Facility element and a Vocational Education Program element (See Chart 1). Stages Two through Five will overlap. As tasks specific to one site are completed in a Stage, tasks can be initiated for that site in the next Stage.

CHART 1: VERC Implementation Stages



Standards and Level of Quality

The standards and the level of quality to be achieved by the VERC are critical to design and construction of the facilities and to design and development of the vocational education program. The contractor will consider three levels of involvement during the Stage One Assessment, and incorporate these into recommendations at the end of Stage One for USAID/Sri Lanka to decide level of intervention for each Vocational Training Center. These levels are:

Facilities

Level 1: Renovate and Upgrade. At all facilities, a minimum level of involvement includes renovating and upgrading existing facilities to comply with Sri Lanka building codes and making the site and building attractive—"light and bright"—a source of community and student pride with spaces that enhance learning. Ecologically sound elements will be incorporated into renovations.

Level 2: Renovate, Upgrade, and add a new "Community Learning Center". In addition to Level One improvements to existing buildings, at all Vocational Training Centers that require a new building the VERC will construct a new Community Learning Center that invites the community into the Center, provides a place for collaborative learning, a Learning Resource and Career Guidance Center, and replaces necessary teaching/learning space lost in the tsunami.

Level 3: State-of-the Art "Green" Campuses. VERC will construct two new Vocational Training Centers that achieve a LEED Silver rating and serve as models of environmental sustainability in Sri Lanka.

Vocational Education Program

Level 1: Address Skill Gaps. English Language Training (ELT), Information and Communication Technology (ICT), and Micro-Enterprise Development (MED) will be added to the training program at each facility through procurement of off-the-shelf instructional materials and installation of equipment.

Level 2: Integrate ELT, ICT and MED. Industries and communities will be consulted and existing curriculum will be reviewed for opportunities to incorporate ELT, ICT, and MED training into specific vocational training curriculum.

Level 3: Create New Educational Programs. New curriculum will be developed, faculty trained and new materials and equipment supplied to teach environmental systems at "Green" facilities. Additional training programs may be developed that respond to industry needs for new workforce skills at specific facilities.

Stage One: Assessment – 3.5 months

Facilities

Assessment of the physical location of the identified Vocational Training Centers; the skills currently taught at each facility; the numbers, types and condition of buildings at each existing Center; the number of students currently at each facility; and equipment and furnishings needed.

Vocational Education Program

Assessment of industry skills needs, community and curriculum needs for each facility, and opportunities for new programs.

Stage One will include the establishment of a VERC Advisory Council to contribute to the assessments and recommendations for the facilities and Vocational Education Program. Stage One will also include two Study Tours to: 1) provide vocational education officials with an appreciation of environmentally sustainable building design and construction and 2) expose vocational education professionals to state-of-the-art vocational practices in curriculum, instruction, staff development, and public private partnerships in the United States.

Stage Two: Program of Spaces and Instructional Program Refinement – 3 months

Facilities

A Program of Spaces that describes the functional requirements, major characteristics and size of key interior and exterior spaces, as well as a targeted net-to-gross ratio and total gross size in square feet is completed for each Vocational Training Center.

Vocational Education Program

New curriculum objectives, content, and methodologies are outlined. The VERC Advisory Council, public/private partnerships, and Center Community Councils are developed and regularly consulted, nurtured, and maintained to provide vocational training advice, to review facility and program design, and to contribute observations and recommendations into both the facility renovation and program changes.

Stage Three: Design – 18 months

Facilities

Architectural and engineering drawings, calculations, and specifications are completed for all Vocational Training Centers including site plans, building renovations, new construction, building systems, and equipment and furnishings.

Vocational Education Program

Curriculum content, teaching pedagogy, and sample materials are developed in full, pre-tested, and revised.

Stage Four: Construction/Production/Training – 22 months

Facilities

Existing buildings are renovated, new buildings constructed, systems installed, and equipment and furnishings procured.

Vocational Education Program

All teaching/learning materials and equipment are procured or produced. Faculty and staff are trained.

Stage Five: Installation/Training – 18 months

Facilities

All equipment and furnishings are installed and administration and maintenance personnel are trained to operate and maintain building systems and equipment.

Vocational Education Program

All educational equipment and materials are installed. Career guidance and job placement programs activated.

3. COMPONENT INDICATORS AND RESULTS

The geographical focus for attaining Tsunami Reconstruction Special Objective 498-045 is the area affected by the December 2004 tsunami in the southern and eastern regions of the country. The targets for implementation of improvements in workforce development are the Vocational Training Centers operated by the Vocational Training Authority in those regions that were destroyed or damaged by the tsunami.

The contractor will generate data for the Intermediate Results and Indicators listed below to measure the attainment of the primary objective of the Vocational Education Reconstruction Component: to improve the workforce development program of the Government of Sri Lanka so that students in vocational and technical education acquire the necessary skills and knowledge to get and keep jobs.

STRATEGIC OBJECTIVE INDICATORS AND RESULTS

Strategic Objective Indicator for Tsunami Reconstruction Special Objective 498-045:
Number of persons employed or reemployed

Intermediate Result 2: Number of community buildings/infrastructure repaired or rebuilt

Relevant Special Reporting Indicators:

- Number of beneficiaries (student and community users of classrooms)
- Dollar value and types of assistance/support for female beneficiaries
- Dollar value of assistance dedicated to education

VERC INDICATORS AND RESULTS

Intermediate Result 1: Increased participation by and communication among vocational education stakeholders.

Indicators:

- VERC Advisory Council established and operating
- Number of industry advisors
- Number of Center Community Councils established
- Number of community members participating in Center Community Councils
- Number of students participating in Center Community Councils
- Number of Center Staff participating in Center Community Councils
- Amount of financial and in-kind contributions to Vocational Training Centers

Intermediate Result 2: Improved English language skills among vocational students.

Indicators:

- Number of students enrolled in ELT disaggregated by gender, ethnicity, and vocational skill area
- Number of students increasing mastery on English language tests disaggregated by gender, ethnicity, and vocational skill area

Intermediate Result 3: Increased application of ICT in vocational centers.

Indicators:

- Number of students receiving instruction in ICT disaggregated by gender, ethnicity, and technology focus

Number of students receiving computer-assisted instruction disaggregated by gender, ethnicity, and vocational skill area

Intermediate Result 4: Improved Micro-enterprise skills among vocational students.

Indicators:

Number of students receiving MED training disaggregated by gender, ethnicity, and vocational skill area

Number of students involved in micro-enterprise activities (such as selling student-made products and services at VTCs)

Intermediate Result 5: Increased number of students receiving career guidance, apprenticeships, or internships.

Indicators:

Number of students receiving career guidance disaggregated by gender, ethnicity, and vocational skill area

Number of students entering apprenticeships disaggregated by gender, ethnicity, and vocational skill area

Number of students participating in internships disaggregated by gender, ethnicity, and vocational skill area

Intermediate Result 6: Increased job placements by students trained in Vocational Training Centers.

Indicator: Number of jobs obtained disaggregated by gender, ethnicity, trained skill area, and job type

Intermediate Result 7: Increased ability of Vocational Training Centers to sustain themselves.

Indicators:

Number of revenue-generating programs initiated in Centers disaggregated by location and type of services or goods

Amount of revenue generated disaggregated by location and type of services or goods

4. FACILITY DESIGN, CONSTRUCTION, AND EQUIPMENT

The VERC will renovate, rehabilitate, or reconstruct, and re-equip up to 12 Vocational Training Centers damaged or destroyed by the tsunami. The VERC will also design, construct and equip two new “state-of-the art” Vocational Training Centers that will serve as models of environmentally sustainable architecture and systems. Among the 14 Centers, at least two will focus on tourism training and the construction trades. The final number of facilities that receive assistance will be determined by USAID/Sri Lanka after the needs assessment. Distribution of the Centers receiving assistance will be equitably spread along the south and east coasts of Sri Lanka.

Facility design and construction will respond to educational program needs, building rehabilitation needs and design and construction guidelines outlined below. In addition, the design and construction of all of the Vocational Training Centers will, to the extent feasible and cost effective, utilize environmentally sustainable materials and systems. “Environmental sustainability” will include energy efficiency, clean production, and waste handling.

The contractor and sub-contractors will provide apprenticeship opportunities to local youth and adults during the design and construction process. Construction will include complete outfitting of the facility with all necessary equipment, furnishings, and educational materials, supplies and resources. The buildings should serve as industry models and instructional tools for the students who will be participating in building operation and maintenance as part of the curriculum.

Vocational education need and site conditions vary between locations, and to this end, three different approaches to design and construction will be used.

Level 1: Renovate and Upgrade – called “Light and Bright” - means including:

- Renovate and upgrade the site and building to comply with Sri Lanka building codes. This includes, but is not limited to water supply, septic systems, exterior walkways, lighting, landscaping signage, roofing, gutters, walls, floors and toilets. It also includes upgrades to make the site and building attractive—“light and bright”—a source of community pride with spaces that enhance learning.
- Enhance day lighting and electric lighting, improve air circulation, air condition computer and office areas, and paint with a varied color scheme
- Incorporate ecologically sound elements, including rainwater catchments, recycling of grey water, low-emission materials, natural ventilation, and day lighting

Level 2: Renovate, Upgrade, and add a new “Community Learning Center” (a facility that stamps “quality” on the Center.) in addition to Level 1, including:

- Construct a new “Community Learning Center” that includes a welcoming entrance, a showplace for student products, an administrative and service area, a gathering place, a Learning Resource Center, a kitchenette, and toilet rooms

Level 3: Construct two new state-of-the art “green” campuses that:

- Serve as a community resource, minimizing the need for other public buildings
- Orient buildings on the site to maximize day lighting and exterior vistas
- Orient buildings on the site to maximize shade and minimize solar heat gain
- Provide shaded bicycle storage and motor bike storage to encourage transportation alternates to heavy-demand fossil-fuel vehicles
- Maximize natural ventilation, minimizing need for air conditioning
- Utilize vegetation and trees to reduce solar gain, provide shade, and lower ambient temperatures
- Utilize water elements to reduce ambient temperature and increase negative ionization
- Incorporate ground-source cooling
- Incorporate photo-voltaic systems to generate electricity for cooling, lighting, and equipment loads
- Save water - use water saving devices on faucets and toilets, recycle grey water
- Harvest rain water for building use
- Optimize use of recycled building materials

The combination of ground source cooling, photo-voltaic electrical generation, and vocational programs to manufacture, install, and maintain these systems have the potential to create a model of sustainability not only for Sri Lanka, but also for the world.

Community Learning Centers

Due to the tsunami, nearly every Vocational Training Center on the list for potential USAID assistance has the need to replace a lost or severely damaged educational facility and program. In addition, VTA must respond to a GSL mandate to rebuild outside of a coastal buffer zone, which in most cases means moving the location of the Training Center. Existing buildings, with some rehabilitation can provide adequate laboratories for activities such as woodworking, welding, and engine/machine-repair teaching and work spaces, but at both old and new sites even undamaged existing buildings do not provide the type of

facility that will support the vision of USAID and VTA to move Sri Lankan vocational training into the future.

The concept of a Community Learning Center answers the broad need for modern space that facilitates learning, offers a model of educational space and programming, and provides a definitive USAID contribution. A Community Learning Center responds to industry, community and student needs and demonstrates professionalism and quality.

The Community Learning Center building will be installed at Vocational Training Centers that need a replacement building or can accommodate an additional building (Fort Matara, for example, cannot). The building will be located to maximize visibility and public accessibility. Building design must allow for necessary adaptations to individual site conditions, provide the opportunity to create a unique local identity and will support modular additions of working space for activities such as sewing, cosmetology or jewelry design. The Community Learning Center will be installed at selected sites where USAID desires to provide full examples of vocational training excellence through both facility and program.

A Community Learning Center that models excellence will feature:

- A *welcoming entrance* area for students, community, and visitors
- A *showplace* for student products
- An *administrative and service* area
- A *gathering place* for collaborative learning and community use
- *English language and e-learning center*
- A *Learning Resource Center*
- A *Career Guidance Center*
- A *kitchenette*
- *Bathrooms*
- *Environmentally sustainable systems and materials*

The Community Learning Center will provide the focal point to the Vocational Training Center. This is where visitors will enter the compound to be welcomed and from which they will be escorted. The entrance is the first impression and will form a lasting image of the Center.

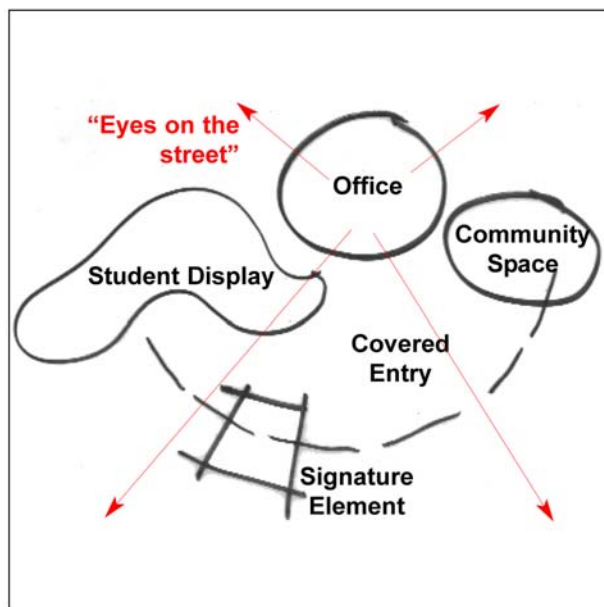


Diagram for a welcoming entry

Welcoming Entry

The main entry is a very important element of school design. First and foremost, the entry should be welcoming. It should be inviting and friendly and not institutional-looking or forbidding. We know that community involvement in schools is a key factor in their success and so the community needs to feel that the school belongs to them. This welcoming aspect has to be balanced by the need to secure the entry and separate its publicly accessible spaces from the student areas. The principle of "eyes on the street" to enhance security involves locating an office near the entry and also key circulation points.

Sri Lanka has 150 – 180 inches of rain each year, making a covered area at the entry particularly important.

Signature Element and Foyer

Both the entry area and foyer will contain some “signature” elements that speak to what makes the center special. Variations in roofing materials, color and column design are some of the ways that an entry can be given a unique identity. For example, columns along a covered walkway could be designed with a special profile, base and cap. The southern coast in Sri Lanka is known for its wood carving—wood columns of a unique profile could showcase skills, inspire students, and provide a source of pride for the community.

A space for student display located near the entry area may include framed student sketches of motors, jewelry, plants, comfortable seating, and also display space for student products such as clothing, ironwork, jewelry, breads and pastries, photovoltaic cells, etc. - all of which may also be for sale. The entrance will also have a counter or desk and/or attached office with computer and telephone for administrative use to serve as a place for a host and/or receptionist, to record reservations (for example, for hair dressing services, or small engine repair appointments), for customers to pay for services provided, and to provide a model small business office for students’ use and learning.

Gathering Area

The Community Learning Center will include an area that provides a gathering space for students and the community that will accommodate collaborative learning, small group discussions, and community meetings. The building will also include a kitchenette with a sink, refrigeration for food, ice, and access to beverages. Tables will be provided for working and eating. Diverse seating (benches, upholstered chairs, and sofas), small low tables, and overhead and free-standing lighting that can be easily re-arranged will support a range of uses.

Learning Resource and Career Guidance Center

A Learning Resource and Career Guidance Center that will accommodate e-Learning and independent and small group student and community learning will be key components of the Community Learning Center. These centers will include a library that supports the training program of the facility with computers, English language resources, relevant employment information, micro-enterprise start-up, job-seeking assistance, career development resources, and career-counseling services.

Bathrooms

The building will also include attractive, modern, separate male and female bathrooms that each provide sinks and privacy for more than one person at a time and can be easily cleaned and maintained. Handicapped accessible toilets and sinks will be provided for each gender.

Construction Trades Training Center

A Construction Trades Training Center (CTTC) must be understood within the context of the student laddering system of the Vocational Training Authority. The Level 1 certificate recognizes the acquisition of core entry-level skills for the new worker in the building trades. Certificates at levels 2 and 3 recognize increasing levels of capability and competence in the building trades. A Level 4 certificate indicates a fully qualified craftsman in all areas associated with the identified trade. These first four levels comprise the responsibility of the VTA Centers, both rural and district that are the focus of this component. The remaining levels (5, 6, and 7) involve diploma and higher diploma formal education that are the responsibility of vocational institutes and technical universities.

Identification of the specific trades to be included in the offerings of a Construction Trades Training Center will depend on the assessment results. The potential list includes the traditional trades of masonry, carpentry, welding, metal structures, roofing, electrical, plumbing, air conditioning and ventilation, and finishing (plastering and painting). In addition, if one of the new facilities that models environmental sustainability becomes the CTTC, the VERC will introduce new trades in the areas of solar power (water heating and photo-voltaic panel fabrication and installation) and ground-thermal air conditioning at this state-of-the-art Center.

The CTTC will address the Key Skills Gaps and all Cross Cutting Themes described in this document. The aim is to create a center that will serve as a model in how to organize and deliver quality competency-based vocational education that can be replicated by the Vocational Training Authority in the future.

Tourism Training Center

A training center that focuses on preparing students for employment in tourism is also to be constructed. The location and specific curriculum for the Tourism Training Center (TTC) will be recommended after an assessment of tourism training needs in Sri Lanka. To complete the assessment, develop curriculum and locate the TTC, the contractor will work with VTA, the Ceylon Tourism Bureau which is under the authority of the Ministry of Tourism (MOT) and operates the Institute of Tourism and Hotel Management (ITHM) in Colombo, and the Tourism Cluster established through the USAID Competitiveness Initiative. At time of writing, the VTA was negotiating an agreement with MOT to provide tourism training within the VTA system, so the new TTC may be operated within the VTA system.

Currently, ITHM has five operating satellite schools in Anuradhapura, Matara, Bandarawela, and Kandy Provinces. At one time, nine existed, but five schools were closed because they could not produce the level of quality required by ITHM. ITHM requires completion of three levels of training (Basic, Intermediate and Advanced), and a six-month internship to receive a diploma. The satellite schools provide Basic training and an internship. For Intermediate and Advanced training, graduates of satellite schools must attend ITHM, which offers all levels of training.

Current coursework focuses on Cookery, Housekeeping, Restaurant/Bar Operations, and Reception. Advanced graduates are prepared for lower-level management positions, while those completing only Basic training and the internship are prepared for the entry-level workforce. ITHM also offers chauffeur, national and area tour guide training, which requires a license to operate. ITHM offers training in French, German and Japanese and teaches all courses in English. The ITHM educational program uses computer technology, but primarily for internet access rather than for tourism-related software systems training (such as hotel accounting, reservations, promotion, etc.). While “O” level students are accepted into the system, the majority are “A” level due to high demand for tourism training. ITHM/Colombo serves 4-500 students while satellite schools can handle approximately 30 at a time. The contractor will assess need and opportunity for additional coursework in tourism such as marketing, small business administration, and incoming travel agent.

Selected coursework will guide design and construction of the new TTC. The facility will support coursework by providing practice areas, such as a commercial kitchen (which may serve as a café for the community), model hotel rooms, and computerized reservations and travel agent systems.

Sustainability Goals and LEED Criteria

A key goal of the reconstruction is to meet or exceed Leadership in Energy and Environmental Design (LEED) criteria at appropriate levels for each facility. The two new facilities will serve as models of state-of-the-art “green” architecture and environmentally sustainable systems, and will be designed to meet criteria for a Silver LEED certification (see Appendix A—LEED 2.0 criteria).

Silver LEED Certification

A LEED certified commissioning agent must be involved in the project, beginning with the early site planning phase, and extending through assessment of the completed facility. Commissioning insures that a clear set of objectives and meaningful criteria are developed for the project at the outset, and that these criteria are met. It also involves training the users to operate and maintain their facility effectively.

In the event that a new model “green” facility includes existing buildings on the site, it is acceptable to provide commissioning and obtain a Silver certification for the new structure(s) only. For example, the Community Learning Center at a model “green” campus might obtain a Silver certification, while a renovated shop building on the same site may not be required to obtain a LEED certification. However, the building contractor is encouraged to design all renovated structures to meet LEED criteria for renovated structures as well (LEED EB Version 2.0, October 2004).

The contractor will be required to obtain the services of a LEED-approved commissioning agent, and will include in his work the cost of commissioning and all services involved in obtaining a Silver LEED certification for a least one structure on each of the two model green campuses. The contractor will also provide an estimated, alternate cost to design all renovated structures to comply with LEED criteria for renovated structures (LEED EB Version 2.0, October 2004).

ASSESSMENT

The VERC will produce an assessment of the needs of each Vocational Training Center that will inform: 1) the vocational education program within the Ministry of Skills Development and Vocational Training and Education, and 2) facility design and construction at each Center.

A comprehensive assessment of the current situation regarding the Vocational Education Reconstruction Component, along with an analysis of the opportunities for modeling new paradigms in vocational education will influence the facility design and construction and the vocational education capacity building.

Assessment of specific business and industry skills requirements will guide the development of curriculum designed to produce qualified graduates for entry-level employees, mid-level managers and/or self-employed service providers or small business owners. The assessment will also guide the establishment of institutional systems and procedures that are developed and implemented in partnership with industry, communities and the GSL for administering the facility, personnel recruitment, strengthening and support, facility management that will include the operation and maintenance of environmental systems and procedures, and student recruitment, registration, training, mentoring and job placement. It will assess ideas and options for revenue generation and cost recovery. Facility design and construction will respond to and accommodate these institutional considerations.

The architectural design and program assessment for each facility will at a minimum include a review of:

- Community and industry needs for vocational skills
- Pre-tsunami curriculum quality and responsiveness to needs
- GSL policy and capability to guide, administer and operate the Centers
- Available human resources and capability for staffing Vocational Training Centers
- Student levels of capability upon entering the system
- Facility Location, Design and Reconstruction Needs
- Availability of “green” construction technology, materials and systems
- Equipment and furnishing needs
- Potential private sponsors for construction, operations, scholarships and job placement

- Barriers to success, such as gender stereotyping and discrimination, lack of access to childcare, stigma surrounding trade professions, ethnic discrimination, political issues, and post-disaster trauma
- Opportunities and options for cost recovery/revenue generation

Community and Industry Needs for Vocational Skills

The output of a vocational training system must match the skill requirements of the labor market in order to produce employable graduates and contribute to the Sri Lankan economy. An assessment of current and projected economic trends and a study of associated skills required by key businesses and industries will guide the development of vocational training curriculum as well as the design of facilities that will provide the necessary teaching and learning environment.

The contractor will identify businesses and industries to which vocational training can best contribute, including tourism and construction, and will undertake a skills needs assessment. Where associated competitiveness clusters have developed, USAID/Sri Lanka requires that the contractor work with the clusters to identify required skills and to involve and link business and industry with vocational facilities.

Assessment of community needs must also guide vocational training facility design and curriculum development. A symbiotic relationship must be nurtured between vocational facilities and their nearby communities. The contractor will develop and implement a process to assess and involve the community to identify needed skills, products and services such as outboard engine repair, meeting space, and computer access and to establish an ongoing relationship between the Vocational Training Center and the community. Quality products and services and attractive campuses build community pride and value for the facility, raising the status of VTA, instructors and students. Small fees paid for products and services can support sustainability of the facility.

Discussions with VTA indicate that other Ministries have approached VTA to discuss vocational training areas such as tourism, health occupations and transportation. The contractor will also work with VTA and interested Ministries to identify specific occupational needs and assess associated skills and training requirements. Occupations might include EMT's, firefighters, nursing assistants, dental assistants and hygienists, radiology technicians, and bus or truck drivers.

Pre-tsunami Curriculum Quality and Responsiveness to Needs

The Ministry of Skills Development, Vocational and Technical Education has developed comprehensive curriculum and pedagogy for the topics taught at Vocational Training Centers. Once industry and community needs have been identified, existing curriculum must be reviewed to assess whether they are current, teach needed skills, and represent best teaching practices. Priority topics for assessment and revision will be those associated with the 14 facilities identified. The contractor will establish and implement a process for review and revision that can serve as a model for long-term updating and improvement of curriculum.

The vocational training centers with which USAID/Sri Lanka is involved should receive complete, improved curriculum and associated instructor and student supplies and materials that model best practices and respond to community and industry needs for all topics taught.

This initial assessment of the vocational programs, the community and the partnerships will impact the design of the facility to allow for the facility renovation and construction to begin early.

GSL Policy and Capacity

While the GSL's Vocational Training Authority will have a key role in guiding operation of the Centers, other departments within MSDVTE have roles related to curriculum and teacher training. To a large extent, the policies and capacity of the government of Sri Lanka to guide, regulate, administer and operate the program and facilities of Vocational Training Centers will determine the quality of the Centers and their graduates. An assessment of the existing organizational structure, responsibilities and policies within this Ministry will guide recommendations for revision and a process for implementing revisions through policy changes and training.

Available Human Resources and Capacity

The December 2004 tsunami severely affected the existing workforce of communities along the south and east coasts of the country, including the administrative staff and instructors of Vocational Training Centers. In addition, revisions to training facilities and curriculum may place new skill requirements on administrative staff and instructors. The assessment will identify necessary administrative and teaching skills, and guide the development and implementation of a training system to bring administrative and teaching staff of the facilities to the required skill levels. This will include training of trainers for long-term sustainability and serve as a model for MSDVTE to apply elsewhere.

Student Capacity

The vocational training system targets students aged 16-35. This student "pool" must be assessed to determine their overall capability in terms of educational training, and life and industry skills, including English language and computer skills. The assessment will guide the development of curriculum and student development plans that respond to the capabilities of students accepted into vocational training and the needs of industry and society for well-rounded graduates.

Facility Location, Design and Reconstruction Needs

The Vocational Education Reconstruction Component will consider rehabilitating tsunami-damaged Vocational Training Centers in the Matara, Ampara, Galle, and Trincomalee Districts. The final number of facilities that receive assistance will depend on the needs assessment. Distribution of the Centers receiving assistance will be equitably spread along the south and east coasts of Sri Lanka.

VTA has already reviewed tsunami damage at these Centers and has recommended relocating certain campuses or buildings due to a government ban on rebuilding within a 100-200 meter buffer zone from the coast. The assessment will coordinate findings and recommendation of the VTA to determine site feasibility and to recommend Center locations for USAID assistance.

In assessing the level of damage to Center buildings, the assessment will determine what level of rehabilitation is required at each site, what renovations will cost, and make recommendations to USAID and VTA. At a minimum, all existing buildings on a site will receive Level One rehabilitation assistance.

Facility design and construction will respond to: 1) educational program needs, 2) building rehabilitation needs, and 3) design and construction guidelines outlined elsewhere in this document.

Availability of "green" Construction Technology and Materials

The design and construction of all of the Vocational Training Centers will, to the extent feasible, utilize environmentally sensitive "green" materials and systems, acquired locally if possible. "Environmental sustainability" will include energy and water efficiency, clean production, and waste handling. In particular, two new model facilities will showcase state-of-the-art applications of environmental

architecture, systems, operations and furnishings. The assessment will describe the availability and cost of purchasing and installing environmentally sustainable elements for each Center.

Equipment and Furnishing Needs

The tsunami destroyed most of the equipment and materials at all of the 12 identified Training Centers. While some equipment has been salvaged, this equipment is out of date or in poor working condition. To increase the employability of students, they must be trained on equipment and use materials that industry is currently using or projected to use in the future. Training on current equipment will also increase community confidence in the ability of students to supply quality products and services. Even equipment such as non-industrial sewing machines (currently of the foot-treadle variety) should be the most up-to-date to increase the capability and productivity of cottage industries.

Vocational Center furnishings, such as desks, chairs, benches, sofas, tables, lamps, artwork must be both functional and attractive. Furnishings must also convey professionalism and instill industry, community, staff and student confidence in the facility.

Through a process of industry, community, instructor, and student input the assessment will describe the equipment, material, and furnishing needs, including identification of type, quantity, source and cost for each Center. To the extent possible, equipment, materials and furnishings will be from in-country sources and meet environmental standards.

The assessment will also identify possible contributions from partners and sponsors to expand the ability to provide equipment, materials, and furnishings. Contributions will be for identified necessary items and not outdated surplus or used items in less than excellent condition. The contractor will work with customs inspectors to facilitate the processing of imported equipment and materials in order to provide each facility with all the equipment, materials, and furnishings it requires to be fully operational by the end of this project.

Potential Public and/or Private Sponsors

The assessment will begin the process to identify, promote and successfully negotiate partnerships to complement program resources available for construction, technical assistance, equipment, materials and instruction. In addition, sponsors will be identified and agreements negotiated for scholarships, internships and job placement. The USAID/Sri Lanka Global Development Alliance coordinator will work closely with this effort to synchronize these activities with other Mission partnership efforts.

Barriers to Success

Access to and effectiveness of vocational training and workforce development can be limited by barriers such as gender stereotyping and discrimination, lack of childcare, stigma surrounding trade professions, ethnic discrimination, language, political issues, and post-disaster trauma. The assessment phase will identify potential barriers to vocational training success and recommend a process and specific actions to overcome these barriers. If overcoming barriers, such as access by physically challenged persons, affects design and construction of the physical facility or program of the Vocational Training Centers, changes will be made in the design and construction of the facility and program development, including necessary training of administrators and instructors.

Opportunities and options for cost recovery/revenue generation

As with most educational organizations, the bulk of VTA's budget is dedicated to salaries and other personnel costs. Funds for the purchase of materials and supplies are often limited. The majority of the vocational skills taught at each Center offer the opportunity for revenue generation through the sales of

goods and services. Prior to the tsunami, the bakery program at the Talalla Center used to sell its products. Most other Centers have similar operations but do not implement any revenue generating programs.

The design and construction of each Center will incorporate such revenue generating activities. In addition, VTA will be asked to elaborate policies and procedures for managing revenue generating activities. This implies a training program for Center administrators and instructors in accounting and a review or possible policy revision to allow revenue to remain accessible by the Center that generates the funds. Revenue generation will link to the development of a micro-enterprise curriculum so that the sale of goods and service at the Centers becomes part of the practical experience of micro-enterprise training.

While the English language programs in the Vocational Education Centers will focus primarily on the needs of enrolled students, the contractor will investigate whether the English teaching staff may be able to offer general English language courses to the community. Income from these courses could enhance the Centers' financial sustainability.

The possibility of creating an endowment or a revolving production fund established and funded by the Centers' industry advisory councils will also be investigated along with additional innovative and realistic approaches to ensuring Center sustainability.

KEY DESIGN CONCEPTS AND GUIDELINES

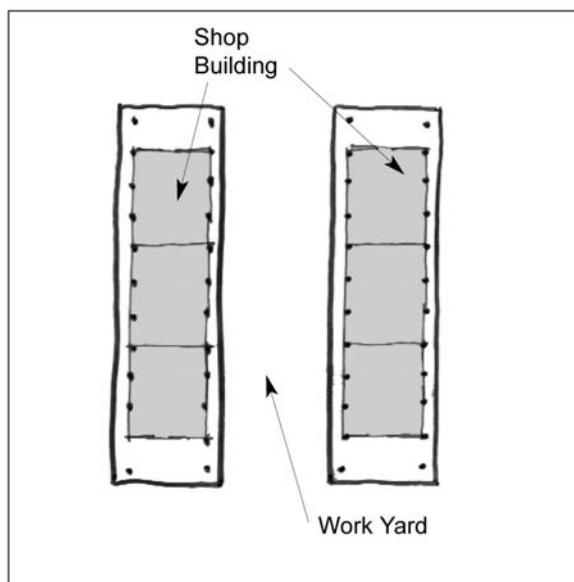
This section is divided into two categories—general building guidelines (includes sustainable elements) and key design concepts relating to educational objectives. The contractor will incorporate these guidelines and design concepts into design and construction of all new vocational training buildings and into renovation and upgrading of existing buildings as feasible.

General Site & Building Guidelines

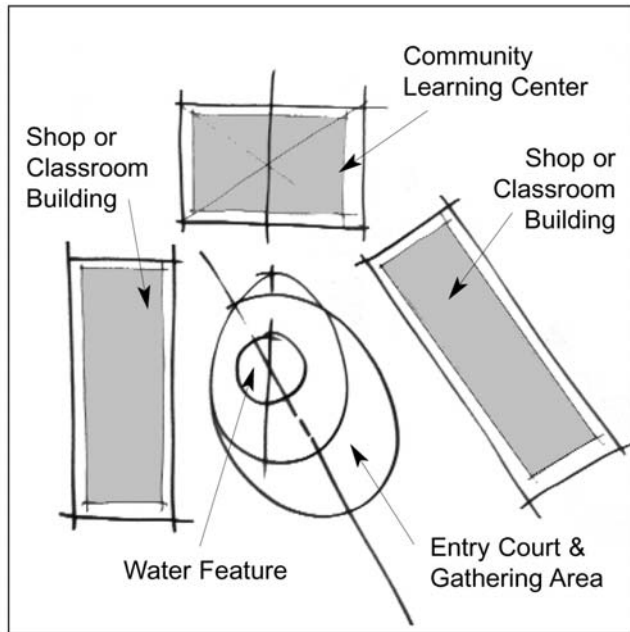
Site Organization

School site planning and building design of the 19th and 20th century was based on management needs rather than individual learners—the “bells and cells” approach. It's efficient to supervise rectilinear classrooms or labs arranged along a long corridor, and this approach applied to both buildings and site plans (see Site Figure 1).

A 21st century approach to site planning and building design includes space for peer-to-peer learning and gathering. It leverages the value of community access and provides space for the community to interact with the school. The public spaces between the buildings are considered as having equal or greater importance as the spaces inside the buildings (Site Figure 2).



Conceptual Diagram of a 19th & 20th Century Approach to Site Planning (Site Figure 1)



Conceptual Diagram of a 21st Century Vocational Education Center (Site Figure 2)



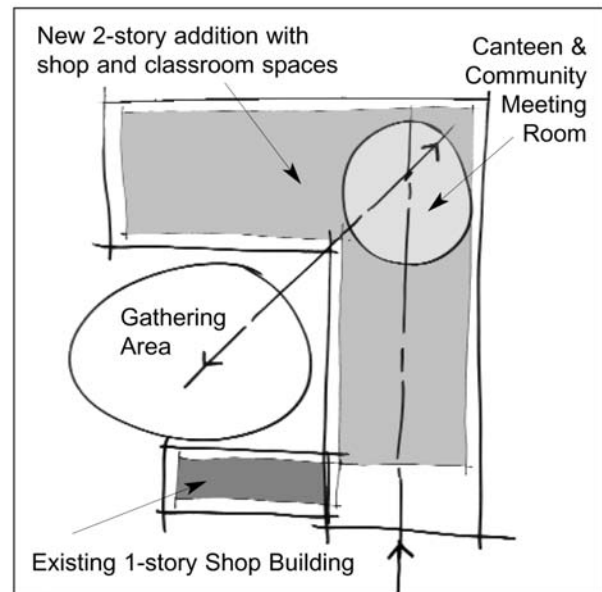
**Work yard at Narigama, April 27, 2005
(Corresponds to a 19th and 20th century approach to planning)**

Site Figure 3 (below) diagrams a 21st century approach, in which an addition to an older lab is designed to create a meaningful public space.

Water Bodies & Ionization

Temperature reduction through the use of water bodies should be utilized where feasible. While a courtyard water body will not reduce the humidity, it will lower the overall temperature, creating a gathering space and also negative ionization.

“While all climates need gathering spaces, the particular need for tropical climates is for negative ionization, a potential brought about by a carefully designed outdoor environment. The presence of water has no rival in the tropics to match its revitalizing negative ionization effect.” (Emanuel, 2005)



Conceptual Diagram of a Modified L-Shaped Court

Based on a proposal by Sri Lanka architects Vidura Sri Nammuni and Tilak Piyaratne for reconstruction of an existing vocational school at Pottuvil (Site Figure 3)



Hotel at Galle by Architect Geoffrey Bawa

Topographical and Vegetative Site Integration - "the spirit of place"

Buildings that are sustainable in a holistic sense not only save energy, but are integrated into the topographical and vegetative features of the site—they reinforce the physical character and spirit of the place. Integrating existing rock formations, working with larger older growth trees, and taking advantage of natural vistas are some of the ways that new construction can enhance rather than disrupt the environment. One of Sri Lanka's best loved architects, Geoffrey Bawa, is well known for ecologically sensitive integration of buildings and landscape.

Orientation

New buildings, where feasible, will be oriented primarily in the east-west direction, maximizing north and south light, which can be controlled through overhangs. Openings and windows to the east and west are to be minimized, but not through rigid limitations on outdoor connections and vistas. Where there are opportunities for good vistas to outdoor areas, east and west building exposure shall make use of tree plantings, deep verandahs, vertical shade fins or other devices to minimize direct solar gain.

Accessibility, Inclusiveness, and Public/Private Partnerships

Physical accessibility for all is a global trend in the 21st century - part of the larger theme of inclusiveness. In industrialized nations, elevator access to multi-story buildings has been incorporated into the building codes. Sri Lanka building authorities are in the process of developing accessibility standards for multi-level structures. An elevator may be required in all public multi-level structures as early as 2010.

At this time in Sri Lanka, there is a lack of trained installers and maintenance personnel. The current reconstruction program is an opportunity to develop private/public partnerships that involve elevator manufactures and new training programs in installation and maintenance.

Vocational programs in elevator technology may be offered on a limited basis, with a major manufacturer taking a lead role in training services until demand in Sri Lanka builds. The USAID team spoke with Vocational Education chairman on May 10 about developing new programs in elevator installation and repair, and he expressed his support for this effort.

The program manager is encouraged to take advantage of this reconstruction program to develop private/public partnerships in the growth of elevator technologies. Such a program will make Sri Lankans more qualified for higher-paying jobs abroad, it will help build a national market, and it will contribute to inclusiveness and accessibility for all Sri Lankans.

Minimal accessibility requirements for the project are:

Ground-level spaces shall provide for wheel chair accessibly, with ramps and handrails as needed. To avoid costly remodeling in the near future, and to provide for equitable access for all, new two story structures shall include, at a minimum, provision for a future elevator installation.

In new multi-level structures, provision will include a storage closet on each level, sized to accommodate at a minimum, a 2,500 pound pneumatic elevator. A depression in the ground level floor slab will be provided under the closet to serve as a future elevator pit, with a temporary floor structure above the pit. The storage closets will be located off major circulation paths, and near building entry areas where feasible. Double door openings and frames of the closet doors will be sized to accommodate future elevator doors. The walls of the storage closets will be constructed to serve as future shaft walls. On one level, a secondary storage closet shall be provided near the closet, to accommodate a future elevator equipment room.

The storage closets designated to become future elevator shafts and equipment rooms shall be in addition to basic storage space, such that after conversion, adequate storage is still provided for.

The contractor shall provide an alternate cost to provide an elevator, equipment and installation; such bid shall be valid for four years after the date of completion, subject to prevailing wage fluctuations and justifiable material and equipment increases.

Roofs

Roofing materials such as concrete and clay tiles that are produced locally are strongly encouraged. Alternate materials, such as corrugated metal roofs, made from imported steel, are strongly discouraged except for durability reasons (for example, on a covered work porch over a high-vibrations repair shop) or where the use of an alternate material in a selected location offers variety and a unique character or signature (in an entryway for example).

The greatest weakness in Sri Lanka roofs (Emmanuel, 2005, conversation with the author) is the lack of insulation. Due to the proximity to the equator and nearly vertical sun angles, nearly all of the heat gain is through the roof. Typical Sri Lanka construction does not include insulated roofs. However, contractors responding to this program should incorporate insulated roofs wherever possible.

All new roofs systems will be installed to achieve a maximum transmittance (U-value) of 1.5. A simple foil barrier is not enough. The type of roofing above the insulation will affect the U-value. For example, a clay roof tile roof has a much better thermal performance than a concrete roof tile. However, the quality of tile roofs in Sri Lanka is decreasing, as quality clay is becoming scarcer. Contractors must be prepared to provide proof of quality standards. In contrast, concrete tile roofs are locally made and of good quality, but more insulation will be required to achieve the required U-value than a tile roof.

The contractor must demonstrate stringent plans for protection of the insulation against vermin and rodent damage. If foil-backed fiberglass is proposed, stringent moisture protection of the insulation is required. Rigid, non-absorptive insulation, such as expanded polystyrene or vermiculite concrete is preferred, as a more durable, moisture resistant solution. A heat reflection coating, such as china mosaic, will also be employed.

Air Conditioning and Ground-Source Cooling

While all buildings and outdoor environments will be designed to maximize natural ventilation, air-conditioning will be provided in selected areas. In renovated structures, these include administrative areas and spaces that utilize computer technology. The Community Learning Center may include air conditioning in (but not limited to) administration areas, areas that utilize computer technology, a gathering place for collaborative learning and community use, an English Language and e-learning center, a Learning Resource Center (see definition page 23), and a Career Guidance Center (see definition page 34).

Since electricity is a precious commodity in Sri Lanka, the designer will make a concerted effort to incorporate alternative methods for cooling. Ground-source cooling is one of the most promising. The greatest barrier to ground-source cooling in Sri Lanka is the warm temperature of the earth for the first 20 feet below the surface, which is the average of the high and low temperatures (about 25 deg C). However, cooling tubes may be installed below 20 feet. Technology for drilling, used for wells, is widespread in Sri Lanka and makes this a very real possibility.

An alternative to cooling tubes is earth air tunnels. This approach was used successfully at the Teri Retreat for Environmental Awareness and Training, in Haryana, India (35 km from New Delhi). However, when considering this case study, keep in mind that the climate is very different in New Delhi which is classified as "Hot Dry, Hot Humid Cold Dry" - a composite climate, versus Sri Lanka, which is "Hot Humid" throughout the year with three seasons - "Hot, Hotter & Hottest" with humidity being a constant factor. The New Delhi project utilized ground source cooling at 13 feet below the surface, while in Sri Lanka, it may be necessary to go deeper to be effective. Teri Reference: <http://www.teriin.org/retreat/>

The Chairman/CEO of the Vocational Training Authority of Sri Lanka (who is also an electrical engineer) supports the use of ground-source cooling, not only as technology, but in conjunction with vocational programs that will train students to manufacture, install and maintain ground source cooling installations (Pinto, 2005).

Photo Voltaic Systems (PV "Solar Panels")

Sri Lanka's intense sun makes it an ideal location for emerging PV technology. Presently, PV panels are imported from the US and Australia. However, local manufacture is entirely feasible.

The greatest electrical load is typically for air conditioning compressors. With ground source cooling, the use of compressors is eliminated or reduced, and the electrical load is drastically reduced. However, electricity may still be required to power distribution fans and for pumps to bring cooled refrigerant out of the ground. Because cooling tubes in Sri Lanka may need to be located deep in the ground, the electricity required to pump the refrigerated liquid above the ground may be significant, and electricity generated by PV technology may be an important part of the equation in achieving a sustainable solution.

Ground Source Cooling, Photo-Voltaic Systems, and Vocational Training Synergy

The combination of ground source cooling, PV electrical generation, and vocational programs to manufacture, install and maintain these systems has the potential to create a model of sustainability not only in Sri Lanka, but for a resource-challenged world.

The contractor is strongly encouraged to develop partnerships in the manufacture and installation of ground-source cooling and PV technology.

Waste Water Management

Natural waste water techniques will be utilized where feasible. A good example is the root zone system used at the Teri Retreat Center in Haryana, India. A bed of reed plants treats the water and the output is used for irrigation.

Building Monitoring Systems

For the new state-of-the-art buildings, the contractor will provide a monitoring system to measure, at a minimum, temperature, humidity, electricity generated, and rain water catchments. A system to balance load sharing to optimize energy use will also be provided.

Educational Building Guidelines

The following guidelines are to be applied at levels appropriate to the scope of work for each site. All of these principles should be incorporated into the new state-of-the-art facilities, while only a limited portion may be feasible in some of the sites to be rehabilitated.

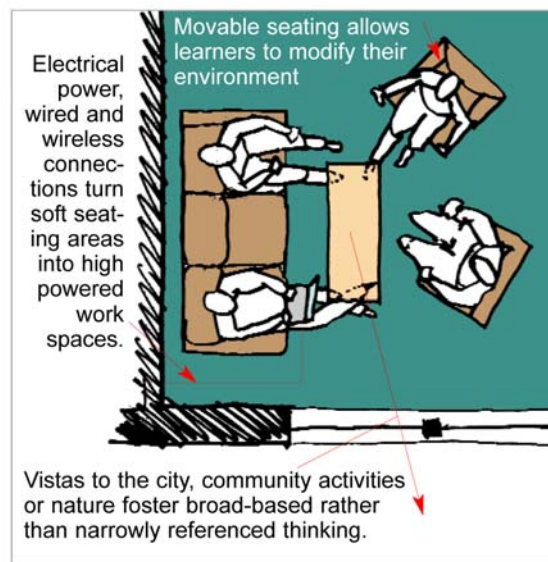
Commons/Gathering Areas

Peer-to-peer or collaborative learning is an essential strategy in 21st century learning. Where ever the site conditions and appropriate scope allow, new and rehabilitated Vocational Training Centers shall incorporate common areas. These may be more formal gathering spaces, as well as small alcoves or niches. Common areas may also be multi-purpose spaces. For example, a lab or classroom may have a door that opens onto a wide circulation path, hall, or landscaped outdoor learning area. When the door is open, the same space that is dedicated to a lab or lecture may become a gathering or collaborative space.

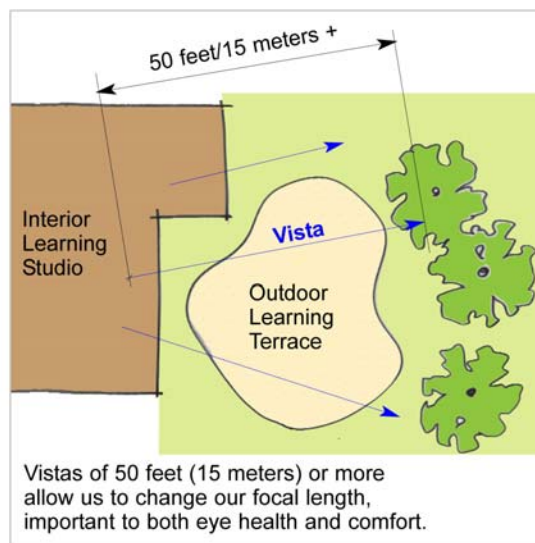
Emphasis on Outdoor Space: The site and building design shall emphasis the use of outdoor learning spaces. Provisions shall be made for shaded areas, porous and non-porous paving, judicious use of ground-cover, shade plantings, access to water (may include outdoor sinks), outdoor furnishings, and storage space for outdoor equipment and furnishings.

Designed to Represent the Workplace

Teaching spaces in new vocational education institutions today are designed to provide the faculty member and the student with an environment that looks like the one in which the student will be working after graduation. For example, the spaces for the first weeks of nursing training in a non-hospital facility begins in a room equipped to look like a patient's room in a hospital along with mannequins programmable to exhibit human responses such as heart rate, blood pressure, etc. Students in a culinary arts program may operate a state-of-the-art restaurant on the campus that caters to members of the community. The students rotate through all the positions in the restaurant from chef, to salad chef, to maitre'd, etc. and customers pay for their meal to replenish the daily food supply. Automotive



Alcoves and niches foster peer to peer learning



Emphasis on outdoor space, interior and exterior vistas

technology facilities can be arranged to duplicate the repair bays at a dealer's service facility or auto repair shop.

Vocational educators and employers that hire the students find that simulating or even accurately replicating the workplace where graduates will be employed reduces the amount of time for the new hire to be productive and reduces the cost of training for the employer. One of the new career areas will be in hospitality/hotel operations. It would be well for students to experience learning from an appropriately designed and arranged hotel room, bathroom, housekeeping storage and linens area, front desk, entrance lobby to the program, etc. It may even be possible for the students to operate a small inn that serves tourists to the area at a reasonable room rate to gain relevant work experience and generate some income to the program.

The contractor will design and construct learning spaces that mirror the workplace to model the concept of reinforcing and accelerating student job performance. Industry representatives and Vocational Training Center staff will be engaged in this process to advise on the appropriateness of the spaces designed and constructed and to ensure that Center staff understands how the spaces fit to the curriculum.

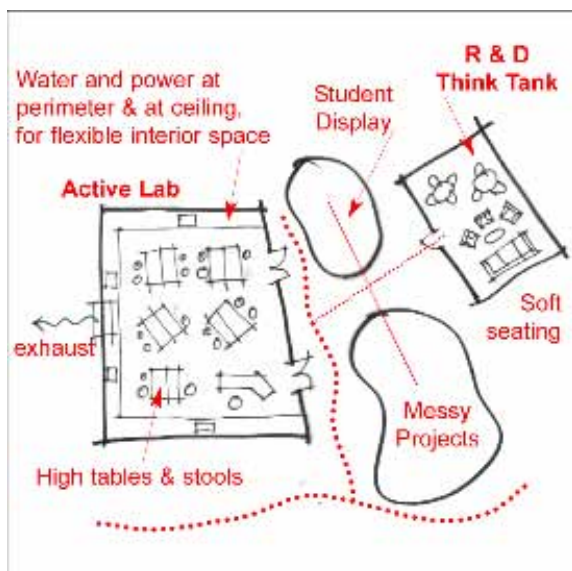


Diagram illustrating integrated lab, Collaboration, and display spaces

Integrated Lab and Collaborative Spaces

Whereas technology, science and crafts have strong disciplinary components to them, much of the application of science and art is multi-disciplinary. These spaces benefit from the kind of richness that these disciplines themselves possess. The contractor will incorporate multi-disciplinary features, including equipment, display and collaborative elements into the design of the vocational center.

Day Lighting

Of all the elements that make up a high performance learning environment, none has greater impact on the quality of learning than daylight. Daylight can be introduced into school buildings in many ways including windows, skylights, light-shelves, and clerestory windows. Sometimes, entire outside walls can disappear through the use of overhead doors and moveable panels so that daylight can wash into interior spaces. Daylight is also important because, used intelligently, it can substantially reduce the energy load on buildings.

In Sri Lanka, daylight is often taken for granted, and a greater emphasis is put on shading and reduction of solar heat gain. The design will emphasize both day lighting and shade, with a target of day lighting for 85% of all inhabited spaces. The contractor will be required to provide daylight calculations along with the completed building design.

Electric Lighting

As vocational centers become more and more successful and integrated into a community's economic and social vitality, their nighttime use will increase. Electric lighting is important to supplement day lighting. Outside of shop areas, where a high level of direct down light is needed, the optimal electric lighting for offices collaborative spaces and classrooms is provided by direct/indirect pendant fixtures. "Pendant" refers to the fact that these fixtures are suspended from the ceiling (optimally about 24 inches). Typically, 60% of the light is directed upward, creating indirect light that is bounced off of the ceiling, and 40% of the light is directed down toward the floor or task surfaces.



Direct/Indirect Pendant

Why bounce light off of the ceiling? Because it creates a more diffused, softer light and it makes the space feel lighter and more open. Conventional fixtures that direct all of the light downward create a glare on computer monitors and tend to make the ceiling look dark in contrast with the glare of the light source, creating a more cave-like effect.

The contractor will utilize direct/indirect pendants in offices, collaborative spaces and classrooms wherever possible. Directional lighting will be used in display areas.

Color

A unique color palette will be developed for each vocational center. Sri Lanka has several paint manufacturing companies, and paint color is an inexpensive way to provide a sense of signature, identity

and pride in a facility. The majority of colors selected will be in the lighter range, with a high light reflectance index (LRV), while selected surfaces will have feature colors (and optionally textures), to enliven the experience of moving through the campus.

Building as a teaching tool

The design will include building and site elements that operate as a "3-dimensional textbook," facilitating learning about sustainability, physics, materials and resources. Examples of features to incorporate into the facilities include: exhibits on sustainable design features, rainwater catchment cisterns located as water amenities, demonstration gardens, and energy monitoring devices to measure building systems such as Kilowatt generation by photovoltaic technology. These features are to be located in educational and public areas, and will serve to empower learning by increasing awareness of the connections between natural, human, and building ecologies (Kobet, 2003)

Optimization of Interior and Exterior Acoustics

Good acoustics are a critical component of any learning environment. At a minimum, the design of the two new model facilities will include: noise abatement from cars, trucks, and buses; cooling and vocational equipment noise reduction between buildings; background noise reduction within labs and classrooms (i.e. fans, air conditioners, and vocational equipment); and reverberation control. An example of reverberation control is the provision of tackable, acoustically absorptive display boards on one or

5. VOCATIONAL EDUCATION CAPACITY BUILDING

Vocational education needs will vary between locations, and to this end, three different approaches to building the capacity of the educational program will be used. The level to be applied to each facility will be recommended by the contractor at the end of Stage One for USAID/Sri Lanka decision.

Level 1: Address Key Skill Gaps. At a minimum, English Language Training (ELT), Information and Communication Technology (ICT), and Micro-Enterprise Development (MED) will be added to the training program at each facility through procurement of off-the-shelf instructional materials and installation of equipment. MSDVTE staff will be trained to train Center staff of each to use these materials and systems. The staff of each facility will be trained by the contractor in collaboration with MSDVTE staff.

Level 2: Integrate ELT, ICT and MED. Industries and communities will be consulted through VERC and Center Community Councils and existing curriculum will be reviewed for opportunities to incorporate ELT, ICT, and MED training into specific vocational training curriculum. The contractor will work with MDSVTE staff to revise existing curriculum to respond to identified opportunities and train Center staff to utilize new instructional content and pedagogy. Center staff will also be trained to fully utilize Learning Resource and Career Guidance Centers for student and community benefit.

Level 3: Create New Educational Programs. New curriculum will be developed, faculty trained and new materials and equipment supplied to teach environmental systems at "Green" facilities. Additional training programs may be developed that respond to industry needs for new workforce skills at specific facilities.

Vocational capacity building will be guided by the assessments completed in Stage One of implementation and will incorporate the cross cutting themes and elements of vocational education success outlined below.

ADDRESSING KEY SKILLS GAPS

The Vocational Training Authority of Sri Lanka has identified three key skill gaps that are responsible for unemployment among Sri Lankan youth. These are the lack of English language communication skills, the inability to access and utilize Information and Communication Technology and the lack of micro-enterprise skills. The Vocational Education Reconstruction Component will address these three key skills gaps in all Centers.

English Language Training

English language communication skills are essential to the development of a flexible, well-trained, and productive labor force. Successful job placement and on-the-job performance in many vocations is dependent on English skills, especially in areas such as tourism and commerce. English also provides the key to accessing most instructional materials, especially through e-learning. English is often the common language that facilitates communication among different ethnic and language communities and with public and private partners both local and international. Finally, English skills are portable and provide the learner with tools to adapt and respond to a changing job market. For these reasons, USAID/Sri Lanka views English Language Training as a cross-cutting theme to support vocation education.

The Vocational Education Reconstruction Program will include work with local ELT specialists and private and public sector partners to:

- Assess the English language requirements of career focus areas, e.g. tourism and commerce, and develop a set of “competencies” that describe the language skills (reading and writing, listening and speaking) needed for successful job placement and performance.
- Develop a communicative language curriculum to address these objectives
- Identify or develop an assessment tool that will measure the student’s initial language skills for placement in an appropriate language learning program.
- Identify commercial or develop specific English instructional materials that can be integrated into the vocation education curriculum. This material should combine both classroom and e-learning experiences.
- Ensure that Computer Labs are equipped with headphones and microphones so that English instructional software can be utilized
- Provide teacher training for the vocational education instructors so that they can increase their use of English in the classroom
- Provide teacher training for local ELT instructors on communicative and content based language instruction and e-learning
- Develop a final evaluation assessment tool that certifies that the student has acquired the language skills needed for job placement and successful job performance.
- Track graduates from the Vocational Education Centers to identify how English skills impact their ability to get a job, to perform on the job, and to expand their career options.

Information and Communication Technology

The ability to capitalize on the benefits of Information and Communication Technology (ICT) is critical to the present and future needs of all Sri Lankans. Without access to life-enriching information or the ability to communicate on a cost-effective basis, Sri Lankans will not be able to compete in a rapidly changing global environment, particularly in light of the end of the multi-fiber agreement. USAID/Sri Lanka views ICT as a vocational education enabling tool and as a cross-cutting theme to support vocation education.

The ICT industry is one of the few areas of the economy that is expanding. Sri Lankan businesses understand that computerization and e-commerce is critical to be locally, nationally, regionally and globally competitive. ICT skills ranging from basic familiarization and data entry to the use of sophisticated software and software programming and computer networking are portable skills that often

help individuals to become employed. ICT should be incorporated into all vocational education curriculums as appropriate, not used just as a stand-alone curriculum focusing on computer technology.

In the wake of the tsunami, many vocational education centers were damaged or destroyed including the internal ICT networks and ICT training labs. Tsunami reconstruction allows the opportunity to rebuild Vocational Training Centers with new, appropriate technology so that students have equipment and software similar to private sector operations and teachers have equipment supportive of teacher training needs.

The education and training sectors face significant challenges deriving from the inability to modernize teaching practices and the lack of computers and computer training available to educational institutions. Computers and ICTs are powerful tools for changing the school and instructional environment.

ICT within the VERC will include the following three elements:

1. Incorporate ICT as an essential job growth skill-set.
 - Evaluate work-force assessment conducted by Sri Lankan ICT Association – SLICTA – to determine how best to support the private sector and target where new jobs are being created
 - Develop ICT training materials and curriculum based on the needs of the private sector
 - Form steering committees/boards to oversee curriculum development and evolution, with emphasis on including the private sector in guiding curriculum development and future necessary revision based on existing job demand
 - Work with VTA and the private sector to determine if national ICT certification standards are adequate
 - Assist teachers to understand and deliver new ICT curriculum
 - Engage the private sector to support internships and facilitate job placement for graduates
 - Work with VTA, the private industry and Centers to develop a system to track graduates ability to get jobs due to ICT skills and form alumni/outreach committees
2. Use ICT as a delivery mechanism for teacher training.
 - Assess current capabilities of teachers to use ICT equipment, the VTA to deliver in-service-teacher-training, and identify ICT equipment necessary to support teachers
 - Equip Vocational Training Centers for efficient use of computers in classrooms, resource centers, offices and by teachers
 - Improve the quality of classroom instruction through improved teacher training to all ICT-enabled teachers
 - Disseminate teaching support materials and highlight available web materials to improve the quality of teaching at the local level
 - Establish a system to increase education reporting and administration management, success-story sharing, and management of Center performance.
3. Include ICT as an essential equipment package for Vocational Training Centers.
 - Assess what ICT equipment is operable and what is needed
 - Design the ICT configuration in the center: the local area network (LAN), wiring throughout the building, and computer and ICT equipment (e.g. video conference, high-speed internet) facilities
 - Examine energy efficiency issues related to ICT equipment ensuring stable power supplies while reducing costly energy-intensive equipment
 - Procure, install, and determine support mechanisms for ICT equipment
 - Recommend and implement physical measures to ensure security for ICT equipment
 - Provide training and complete manuals for operation and maintenance of ICT equipment

Micro-Enterprise Skill Development

Micro-enterprise skills enable students and community members to recognize the marketability of their skills and knowledge and create a business opportunity. In order to initiate an enterprise they need to know how a business is formed in their local business environment and regulations. The prospective business owner has to be able to identify the product or service to be provided and assess the market.

The micro-business owner must learn how business is transacted, how to maintain records and accounts, manage customer relations, and assess business profit or loss. It is particularly important to learn how to prepare a business plan to use for marketing and making a presentation for micro-financing. These are skills that build the economy and the industry clusters promoted for economic development.

Candidates for future business owners may include graduates of the outboard motor training, domestic sewing, automotive repair, television repair as examples.

The contractor will work with chambers of commerce and trade association to develop the micro-enterprise curriculum and support materials to be available at the Vocational Training Centers for student and community member access.

CROSS CUTTING THEMES

The VERC has several Cross Cutting Themes that will affect all stages of implementation and inform decision-making when alternative approaches are possible. These cross cutting themes are described below.

Participation and Communication

Collaborative action toward a common goal by all stakeholders results in sustainable, system-wide change. Stakeholders of the vocational training system include business and industry, government agencies, local communities and the staff and students of the Vocational Training Centers. Promoting community participation, collaboration with the private-sector, instructor and student involvement, transparent processes and open communication are principles central to the VERC. Stakeholder participation in assessments, planning, decision-making and implementation will strengthen communication and working relationships to create a network of interconnected interests and actions to strengthen the vocational training system.

Collaboration occurs from the outset by bringing together diverse stakeholders representing the broad interests involved in the issue. Participatory processes aim to find common ground and develop a shared vision or goal. Establishing common goals allows the stakeholders to invest more fully in effective actions that complement the actions of other stakeholders. It allows stakeholders to commit with the assurance that they are more likely to succeed because other groups are committing responsibly as well. Stakeholder involvement accelerates the process of having a larger impact by broadening the base of people creating solutions for the issue. This broader base also helps to consider the various social, economic, governmental, and environmental issues and interests that impact or are affected by recommended actions.

The VERC will create collaborative processes for involving all stakeholders, constructing a common vision, making decisions, and taking action. Stakeholder participation will be based on respect for local knowledge and capabilities, appreciation for diverse perspectives and opinions, the free exchange of information, valuing of each participant's contribution and experience, and increasing equity among different segments of the population. Issues of power and control will be addressed by ensuring that all key stakeholders have an equal opportunity and ability to participate.

The contractor will establish a VERC Advisory Council that includes representatives of the GSL (MSDVTE), the USAID Mission, and stakeholders from the private sector. The contractor will also establish local Center Community Councils with representatives from the community and Vocational Training Center staff and students. The contractor will establish a system for communicating with the Advisory Council and local councils on a regular basis and will fully share information about processes, recommendations, decisions, and actions.

Gender

Due to decades of universal free education at primary, secondary, and tertiary levels, Sri Lanka has attained gender parity in access to education. Still a major area of inequality is employment: the unemployment rate for women has been double that for men and the demand for female labor is mainly for casual and low wage, low-skill jobs in agriculture (plantation work), export manufacturing industries (including the garment industry), and home-based economic activities. In overseas domestic work Sri Lankan women have been vulnerable to abuse.

Gender role definitions in Sri Lankan culture have had a direct effect on the training offered by the VTA. For example, men are trained in jewelry-making and women are trained to be machine operators in the apparel industry. Neither of these skill areas has any gender-linked advantage. Jewelry-making requires artistic and visualization talents. Sewing machine operators must be able to persevere with a narrow focus on repetitive tasks. Selection of a specific skill area by an individual should be based on that individual's physical, mental, and psychological capabilities. There are men who can be successful secretaries and women who can be successful welders.

The Vocational Education Reconstruction Component aims to lay the groundwork for gender equality in Sri Lankan society by increasing education and training options for girls and women and increasing their access to employment in careers that pay a living wage. Female trainees in the Centers should have access to careers that pay salaries at least as high as those typically available to young men. The contractor will design program components to address gender equity in a variety of dimensions, including:

- Non-traditional careers: Student recruitment, curriculum, and career counseling at the Centers should promote the option of non-traditional careers for both sexes and support students in experimenting with and making career choices outside of gender stereotypes.
- Gender equity in new career fields: Centers will pay particular attention to ensuring equal access to women and men in newer career fields, such as computer technology and tourism. Centers will take programmatic measures to mitigate gender stereotyping around training for new career fields initiated by the center.
- Gender equity in programs and facilities: Although individual Centers may have particular strengths and emphases in their training program, they will ensure gender equity in expenditure of resources, equipment, and staffing. Training popular with young women will have equal resource allocation with those popular with young men.
- Disaggregate data: All program data, including student enrollment, program staffing, student achievement, job placement, etc, will be disaggregated by gender, educational level, and age. Monitoring data will be used to for programmatic decision-making to achieve objectives and gender equity.
- Gender sensitivity and equality will be included in the life skills and counseling components of the program: Illustrative topic areas include: prevention of violence against women, relationships and gender identity, reproductive health, non-traditional careers for both women and men, etc. Topics will be determined with input from the students and are likely to be best addressed through peer training approaches that include sensitivity to local culture(s).

Conflict Mitigation

Sri Lanka has experienced cycles of ethnic violence both before and after Independence. Armed conflict over the past two decades has claimed more than 65,000 lives and resulted in more than 800,000 internally displaced persons (IDPs) in the North and East. There are multiple root causes of the conflict. The February 2002 cease fire agreement between the Government of Sri Lanka and the Liberation Tigers of Tamil Eelam (LTTE) is still holding and successive rounds of talks have seen significant concessions by both sides. However civil war has spawned additional factors that could ignite further conflict: antagonism between IDPs and host communities, concern about the character of LTTE administration of the North and East, and Sinhalese fears about the territorial integrity of the nation. After a brief period of detente as Sri Lankans pulled together to cope with the aftermath of the tsunami, the process of reconstruction has begun to mirror the on-going political divides in the nation. The GSL and the LTTE are currently attempting to negotiate the Joint Mechanism, an agreement on cooperation and sharing of donor resources to reconstruct tsunami-affected areas in the North and East.

USAID/Sri Lanka's SpO "Peace Process Supported" has emphasized enhancing the employment and livelihood opportunities of conflict-affected populations to stem frustration and ethnic competition over resources that can fuel further conflict. Democracy and Government activities have focused on multi-stakeholder peace building processes. Prior USAID workforce and conflict assessments in Sri Lanka have identified the cohort of educated, un- and underemployed young people as a population segment that is particularly vulnerable to recruitment into violent activities. On the other hand, like many natural disasters, the 2004 tsunami provides an opportunity for Sri Lankans to pull together as a nation to reconstruct affected communities and, in the process, to advance the peace process. Although the primary motivation for the Vocational Education Center Reconstruction Component is tsunami relief and economic growth, the Component will also contribute to the peace building process in the country by reducing the likelihood that unemployed, disengaged youth will be available as foot-soldiers in conflict.

The programs will be designed to be conflict-sensitive at two levels: 1) "do no harm," and 2) take a proactive conflict mitigation approach in working with young people. A "do no harm" approach means that the vocational education itself should be designed in such a way as not to fuel ethnic competition and tensions in Sri Lanka that could lead to further violence. Contractors will consider such factors as ethnic balance and equity in site selection and access to the program, language issues, and the ethnic make-up of staff and students. The development of multi-ethnic staff and student bodies in the Centers will enhance socio-economic integration in the country which can help reduce ethnic tensions.

The contractor will also design components for the vocational education program that proactively reduce conflict. Illustrative programmatic approaches are: training students in non-violent conflict resolution and community participation as part of a life skills curriculum, organizing community service activities for students, and designing exchange of faculty and students across centers.

ELEMENTS OF VOCATIONAL EDUCATION SUCCESS

Public/Private Partnerships

Public/private partnerships, comprised of faculty and administrators of vocational programs and representatives of industry and local government, have the advantage of providing win-win opportunities for all participants. The objective of these partnerships is to serve a common customer – the students who will become the employees of the businesses.

Ideally these partnerships would come together to:

- Share information about the industry and the skills and knowledge needs for employees as well as understand the students' situations and the challenges for faculty
- Contribute to building rehabilitation, including materials, equipment and furnishings

- Develop a common set of resources, such as materials and tasks, used in the workplace as aids for learning
- Develop student internship opportunities with partner companies
- Improve career guidance for students
- Set goals together, such as student job placements
- Collaborate in problem solving
- Evaluate progress in achieving partnership goals

Partnering relationships of industry and vocational education enable educators to gain access to the increasing technology in the workplace and to bring that knowledge into the educational process. Also, partnering can help to address the shortages of technically skilled and talented workers. Industry can reduce the cost of employee training if workers are better prepared.

The Contractor will:

- Make recommendations for and implement a process to develop and sustain close, comfortable and productive relationships between industry representatives and instructors operating to improve content of programs, and
- Facilitate operations supporting students' smooth entry into the businesses associated with the programs
- Guide the faculty and staff of the Centers through the process of initiating the public/private partnership, functioning as a partner and negotiating a relationship in which the educators and the employers both gain essential benefits.

Once public/private alliances are formed the contractor will need to establish systems to monitor that commitments to specific roles and responsibilities, including resource contributions, are formalized through memorandums of understanding, letters of intent, and other legally and non-legally binding mechanisms. The USAID/Sri Lanka GDA coordinator will coordinate all partnerships with USAID's Global Development Alliance.

Teaching and Learning

In accord with an objective to make significant improvements to damaged Vocational Center facilities, this component aims to promote practices that enhance student development and learning to support their future lives.

The vocational education programs focus on essential skills that are used daily for life, for learning and for work. They are the foundation upon which graduates can build successful lives and prosperous careers and advance to higher levels of learning. Modern vocational educators incorporate these skills into the daily lesson plans and/or provide service to students through the Learning Resource Centers when they are available.

The vocational education program for student development includes, but is not limited to the following areas:

- English language skills, both oral and written
- Critical thinking skills for analysis of complex tasks and problem solving
- Collaborative skills that promote working harmoniously in a team environment
- Leadership skills to promote the ability of students to move forward in learning and work with minimal supervision, learn to give direction to others and to make appropriate decisions
- Creative and innovative approaches to completing school and work assignments
- Presentation/display skills for communicating information to others informally and in more formal group situations
- Computer skills which include computer software applications skills as a minimum requirement for all students

- Career development skills that include researching a career path in an industry, preparing for a job interview, job search techniques and resume' writing
- Enterprise skills enabling students to recognize the marketability of their skills and to understand how business enterprises are formed, how business is transacted, how to keep accounts, manage customer relations, work with a business financing source and the importance of engaging with a chamber of commerce or trade association
- Transnational skills enabling students planning to work in foreign countries to make a smoother adjustment to another culture by learning about the culture and customs of peoples in Middle Eastern and Asian countries that are importing personnel

The contractor will work with the relevant national offices for vocational education faculty and staff development to provide training to learn how to incorporate these practices in the classroom and Learning Resource Centers.

Curriculum Development

The National Institute of Technical Education (NITESL) is the agency within the Ministry with responsibility for curriculum development and teacher training. Coordinating through the Vocational Training Authority, the contractor will work collaboratively with the NITESL to improve vocational curriculum in technical areas. The Skills Development Project (SDP), a seven-year project ending in 2006 and funded by the Asian Development Bank, has already done extensive work in the traditional skills areas offered by the vocational centers.

This component will focus on supplementing curriculum development in areas that have not been addressed by SDP. In particular the contractor will be expected to concentrate on areas of greatest need, for example:

- English language training and its integration with skills training
- New curriculum areas – photo-voltaic cell fabrication, installation and maintenance; ground-source cooling design and construction, and in response to skill needs identified by industries
- Micro-enterprise and self-employment
- Vocational center management and administration
- Revenue generation through sales and services as a teaching tool

In addition to specific skills areas, the contractor will identify ways to assist NITESL in improving the process of curriculum development. One option is incorporating the DACUM process (Developing A Curriculum), or a similar process, that has clearly identified roles for industry, instructors, students, and community in curriculum development. Improvements in curriculum development have direct consequences for: staff development and instructor training, testing (both theory and practical), and student certification. The contractor will implement its program of curriculum improvement integrated with and linked to its efforts in these areas.

The VTA delivers training in blocks of time to groups of students. Open entry—open exit programs allow students to enroll at any time during the year, progress at their own pace, and graduate when mastery is demonstrated. Open entry-open exit programs in skill areas do not currently exist. The contractor will be expected to introduce this approach to NITESL and the VTA. While the focus of this Component is not to change the entire vocational training system, the contractor is expected to implement some pilot projects using an open entry—open exit approach to curriculum and instruction in selected skills areas.

“Green” Buildings as Educational Tools

Buildings that are designed and constructed to be models of environmental sustainability provide an opportunity to educate students, the community, and industry about best environmental practices, new technology, and sustainable materials. Students can become technologists for production, operations,

maintenance and repair of specialized equipment and systems, increasing their employability. For example, a vocational training facility might produce and sell photovoltaic cells, students may learn how to complete energy and water audits and how to install ground-source cooling systems, or students at a tourism training facility may become hotel environmental systems managers. Students should be trained to operate and maintain the facilities' environmental systems.

The community, businesses and industry can also benefit from a "green" vocational training center and seminars or short courses held at the facility to help increase widespread understanding benefits and cost recovery, where to purchase, and how to install, operate and maintain environmental design services and sustainable systems and building materials.

The contractor will provide operations and maintenance manuals, as well as curriculum, resource information and instructor training for community and industry short courses and more in-depth student coursework related to all environmentally sustainable features of the vocational training facilities. This will include training in how to complete energy and water audits and cost recovery analyses. The building will include visible monitoring devices for the building systems to explain these systems to students and the community. Such devices will include those that generate electricity from photo-voltaic cells and rain water harvesting.

The contractor will also conduct journalist familiarization tours of the model "green" facilities and provide national and local news media with complete information about the building.

Career Guidance

The ultimate objective of a vocational training program is to secure jobs for the unemployed and underemployed. Career Guidance Centers can provide a variety of services that aid the student in navigating the world of careers and in making appropriate choices. Services usually include:

- personalized career counseling and planning
- information about careers including access to Internet sites such as www.jobstar.org
- career interest surveys
- skills assessment
- coaching and practice for job interviews
- assistance with resumé preparation
- career fairs for interviews with local employers at the Vocational Training Centers
- listings of job openings provided by local employers
- tracking of job placements

An active Career Guidance Center can be important in increasing the percentage of students completing their vocational programs and obtaining employment. This office is instrumental in:

- facilitating the relationship with local business and industry
- assisting faculty in making contacts
- supporting faculty in enabling students to have accurate information about careers

The contractor will work with the VTA to develop a program of career guidance and job placement in each Center with which USAID is working. A well developed career guidance service at Vocational Training Centers will aid students in developing, evaluating and implementing career plans in the following ways:

- analyzing interests, aptitudes, abilities, work experience, personal traits and desired lifestyle
- engaging in personal assessment and evaluation
- obtaining information about careers
- matching training and personal interests and assets to specific vocations
- presenting oneself effectively as a candidate for employment
- obtaining placement in employment or future career preparation

The Career Guidance service will also be part of the public/private partnership with industries developed to facilitate movement of students to the job market and to understand how the industry or cluster functions.

The Career Guidance Center will be a place where a student can have a private conversation with a counselor. It will also include a library of career information of both printed material and videos or CD's, a display space to list job openings and computers with internet connectivity to access internet-based career guidance tools and job listings.

Personnel projected to operate Career Guidance Centers will need special training in counseling skills, knowledge of careers, and assessment of interests, skills and aptitudes. They need modeling of skills to make connections in the business community to enlist local employers hiring of students. This aspect of staff development is possible through special workshops and classes, but spending some time in a well-functioning career center in a vocational preparation institution in the U.S., Australia or other location would be helpful. Another portion of this RFP describes a Study Tour to an exemplary program site in which a visit with the Career Guidance office would be instructive.

Apprenticeships and Internships

The NAITA supports the placement of students in apprenticeships and on-the-job-training for the VTA centers. However, these activities are mostly in the urban areas around Colombo. The majority of the centers affected by the tsunami are in the South and the East of the country.

The contractor will assist each Vocational Training Center in establishing working relationships with the industries the Center supports. Based on input from industry, the contractor will make recommendations for adapting the programs of the NAITA to meet the needs of the Centers with which USAID is working. In the past, the most successful relationships have been with the apparel industry in selected Centers. The model used for collaboration between the Centers' industrial sewing programs and garment factories can be a starting place for developing relationships with other employers. For example, the computer related training offered in multiple Centers offers many opportunities for apprenticeship or internship activities. These activities will be enhanced by the establishment of industry advisory councils at each center.

Job Placement

At the national level, the Ceylon Chamber of Commerce has developed a job bank for linking skilled workers with jobs (www.jobsnet.lk). This is one example of where the Centers can expand the horizons of their students. Establishing an industry advisory council for each Center will more closely link the Centers to the sources of employment.

At a minimum the contractor will develop a practical job placement system that is feasible for each Center (given the skill areas and geographical location of each) and provide training to Center staff in its implementation. While the length of this component will not allow the contractor to directly generate data on job placements in most Centers, the contractor will develop a job placement tracking system and train Center staff in its implementation. The tracking system will include follow up with program graduates three months after graduation to determine if they have employment and their job title. An alumni association will be established that will assist in tracking long-term achievements by graduates and will further link industry to the Centers.

Learning Resource Centers

Two of the Vocational Training Centers had or have a space designated as a Learning Resource Center to provide career guidance and in one instance computer-based learning CD library for student and community member independent study. This Component will expand the functions of the Learning Resource Centers to deliver additional selected features of the vocational education program, to connect with the business community, and to welcome visits and use by the larger community. The Learning Resource Center may be the first contact with people coming to the Vocational Training Center and will be an attractive and welcoming place to the student and the visitor.

The Learning Resource Centers will support and integrate the following services:

- English language learning support
- Career guidance and planning
- Job placement services
- Career and independent study CD library
- Space for faculty and administrative meetings with business/industry representatives to fulfill public/private partnership activities or work with industry clusters
- Display student work, and information about products and services that business and community members can purchase such as baked goods, outboard motor repair, hair styling, etc.

The contractor will design Learning Resource Centers to accommodate the desired services and equip the area with comfortable, attractive furnishings, good lighting, flexible display space and décor appropriate to informal collaboration. Learning Resource Center staff will be provided with training and mentoring that will enable performing in their expanded roles.

Faculty and Staff Development

Faculty and staff development is the process by which faculty learn new methods of enabling student learning, acquire the ability to use new techniques of instruction, and learn how to employ new technology for teaching their chosen fields.

The faculty and administrative staff are critical to any changes, innovations or improvements in the vocational education process. Construction of new buildings and installing equipment with new technology and new types of spaces will have limited effect unless faculty and staff are prepared to use them in new and creative ways. It will be important for the faculty and staff to learn how to form and sustain new relationships in their communities with business and industry and with organizations such as chambers of commerce and trade associations. The goal of a closer relationship with industry that impacts the content of the curriculum and obtains support from business and industry will go unfulfilled unless faculty and administration at the Vocational Training Centers can learn in a comfortable way how to create and sustain those relationships and how to incorporate new technology and information into the classroom.

Some faculty of the damaged Centers are still employed by the Vocational Training Authority and still report for work although they are unable to function in the damaged spaces with little or no working equipment. During the period of the construction, the faculty are likely to be available for development activities.

Faculty and staff development can take many forms including workshops or seminars and additional classes to advance their knowledge in their teaching subjects, to improve their ability to communicate and teach in English and to learn how to use new technology. These more traditional approaches will serve well in improving the level of career guidance and career information or gaining additional professional knowledge in computer programming languages or web design, for example. Learning how to work with business and industry, going to the places of business, seeing how the work is conducted,

how the equipment is used, seeing the relationships of owners or supervisors to the employees, inviting the business representatives to the Vocational Training Centers, conducting meetings that come to common understanding about program content and student skills for the workplace and developing student internships does not happen in traditional workshops or classes for faculty and staff development.

The contractor will develop and implement a process of modeling the behaviors with faculty and administrative staff that they will need to acquire to initiate and maintain relationships with business and industry that achieve working public/private partnerships, participation with the industry clusters targeted for economic development and a comfortable knowledge about the industry for which they are preparing students for employment. It will be important to consult with, involve, and train with the National Institute of Technical Education (NITESL), whose role in the Ministry of Skills Development is curriculum development and the training of trainers.

Training requirements for the Vocational Training Centers should come to NITESL through the Ministry of Skills Development as requested by the Vocational Training Authority. NITESL will need information regarding the number of faculty with training needs, the content area for training, and exposure to the latest methods of teaching with technology.

Study Tours

The contractor will design and implement two study tours during Stage One of implementation. The first study tour is intended to provide vocational education officials with an appreciation of environmentally sustainable building design and construction in the early phases of the project. This appreciation will be made practical as the two new "green" centers are designed, constructed, and inaugurated in Sri Lanka.

For budgeting purposes, the contractor should plan on one trip by up to 10 individuals to visit two centers in India for one week. Examples of such locations are provided below but the contractor should not be limited to these examples:

RETREAT (Resource Efficient IERI Retreat for Environmental Awareness and Training) is located in Haryana, 35 kilometers from New Delhi <http://www.teriin.org/retreat/>. It contains various "green" features, including an innovative underground tunnel air cooling system. It incorporates classrooms, computer facilities, auditorium, and dormitory rooms, along with outdoor recreational space.

CII-Sohrabji Godrej Green Business Centre in Hyderabad <http://greenbusinesscentre.com/greenbuld.asp> This USAID/India project and India's first LEEDS Platinum award winner and has now inspired one other Platinum winner and several others in the planning stage.

The second study tour is intended to expose vocational education professionals to state-of-the-art vocational practices in curriculum, instruction, staff development, and public private partnerships in the United States.

For budgeting purposes, the contractor should plan on one trip by up to 10 individuals to visit the United States for a period of 12 days. Offerors will propose how they will plan and organize such a study tour and what objectives the tour will accomplish.

Center Sustainability and Revenue Generation

As with most educational organizations, the bulk of VTA's budget is dedicated to salaries and other personnel costs. Funds for the purchase of materials and supplies are often limited. The majority of the vocational skills taught at each Center offer the opportunity for revenue generation through the sales of

goods and services. For example, the bakery program at the Talalla Center sold its products before it was destroyed by the tsunami. Most other Centers have similar operations but do not implement any revenue generating programs.

As part of the design and construction of each Center the contractor will incorporate such revenue generating activities. In addition, the contractor will work with VTA to elaborate policies and procedures for managing revenue generating activities. This implies a training program for Center administrators and instructors in accounting and a review or possible policy revision to allow revenue to remain accessible by the Center that generates the funds. The contractor will also link revenue generation to the development of a micro-enterprise curriculum so that the sale of goods and service at the Centers becomes part of the practical experience of micro-enterprise training.

While the English language training programs in the Vocational Education Centers will focus primarily on the needs of enrolled students, the contractor will investigate whether the English teaching staff may be able to offer general English language courses to the community. Income from these courses could enhance the Centers' financial sustainability.

The contractor may also investigate the possibility of creating an endowment or a revolving production fund established and funded by the Centers' industry advisory councils. Offerors should consider additional innovative and realistic approaches to ensuring Center sustainability.

Appendix A

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<http://www.teriin.org/retreat/> Contains various "green" features, including an innovative underground tunnel air cooling system. It incorporates classrooms, computer facilities, auditorium and dorm rooms, along with outdoor recreational space.

<http://greenbusinesscentre.com/greenbuld.asp> This USAID/India project and India's first LEEDS Platinum award winner, which has now inspired one other Platinum winner and several others in the planning stage. It's located in Hyderabad (south India).

Appendix B

CONTRACTOR RESPONSIBILITIES BY OBJECTIVE

FACILITY DESIGN AND CONSTRUCTION

Objective (1): Assess the needs of each Vocational Training Center to guide a.) facility design and construction at each Center, and b) the vocational education program within the Ministry of Skills Development and the Vocational Training Authority.

The Contractor's Responsibility: The contractor will assess: 1) community and industry needs for vocational skills, 2) pre-tsunami curriculum quality and responsiveness to needs, 3) GSL policies, administration and operations of the Centers, 4) available resources to staff the Centers, 5) student capability levels at program entrance and relevance for curriculum design, 6) facility location, design and reconstruction needs, 7) availability of "green" construction technology, materials and systems; 8) equipment and furnishing needs, 9) private sponsors for construction, operations, scholarships and job placements, 10) barriers to success, such as gender stereotyping and discrimination, access to childcare, stigma surrounding trade professions, ethnic discrimination, political issues and post-disaster trauma, and 11) opportunities and options for cost recovery/revenue generation. The contractor will provide recommendations to USAID for educational program and facility development at each site.

Timeframe: Stage 1: Commence assessment activities within 45 days of contract award and complete recommendations based on assessments within 3 months.

Measure of Success: Assessment report and recommendations for programs and construction projects for each site are presented to USAID mission for decision-making.

Objective (2): Repair, rehabilitate, or reconstruct, and re-equip the facilities at up to 12 Vocational Training Centers damaged or destroyed by the tsunami.

The Contractor's Responsibility: The contractor will incorporate LEEDS criteria for environmental sustainability and key design concepts and guidelines to complete repair, renovation and/or reconstruction recommendations for each site including a program of spaces, which describes the function, characteristics and size for all key spaces at each Center. The contractor will also provide opportunities for local youth and adults to work as apprentices during design and construction, will outfit the facility with necessary equipment, furnishings, educational materials, supplies and resources and will use cost effective, environmentally sustainable materials and systems.

Timeframe: Stage 2: Following Mission directive for facilities, complete a Program of Spaces for each site to be repaired, rehabilitated or reconstructed. Stage 3: Design site, buildings and furniture and equipment plans. Stage 4: Construct/repair buildings; procure equipment and furnishings, instructional and curriculum materials and supplies. Stage 5: Install equipment, furnishings, instructional materials and supplies. USAID and VTA conduct "walk through" of Centers prior to Centers becoming fully operational.

Measure of Success: Vocational Training Centers are repaired, rehabilitated or reconstructed, equipped, and furnished as approved by USAID/Sri Lanka.

Objective (3): Design and build two new state-of-the art "green" vocational training campuses that will serve as models for vocational education facilities and environmentally sound design.

Contractor's Responsibility: The contractor will design and build two new state-of-the art "green" vocational training campuses that incorporate LEED criteria to a silver standard and key design concepts and guidelines, including those related to educational objectives of the centers

Timeframe: Stage 2: Provide a Program of Spaces that describes the function, characteristics, and size of all key spaces at each Center. Stage 3: design the campuses. Stage 4: construct the campuses. Stage 5: install equipment and furnishings.

Measures of Success: Two new model "green" Vocational Training Centers receive a LEED Silver certification. The Centers' buildings and sites feature elements that operate as a "3-dimensional textbook," facilitating learning about sustainability.

VOCATIONAL EDUCATION CAPACITY BUILDING

Objective (4): Address major workforce skill gaps that contribute to unemployment by incorporating English Language Training (ELT), Information and Communication Technology (ICT), and Micro-enterprise development programs at all VERC Centers.

Contractor's Responsibility: **ELT:** The contractor will: 1) assess English needs in targeted occupations, 2) use the assessment to guide development of communicative and vocational purposes competencies, 3) work with the VTA to review and refine ELT curriculums, identify commercial and/or produce ELT teaching materials and create an assessment tool for measuring competencies and 4) work with VTA to train teachers, and 5) establish a system for tracking impact of English skills on graduates' job placement. **ICT:** The contractor will 1) conduct a work-force assessment of ICT skill needs, 2) use this information to develop ICT training materials, set standards, and develop an ICT curriculum, 3) use ICT as a delivery mechanism for teacher training 4) identify and procure necessary equipment for efficient use of computers in classrooms, resource centers, offices, and by teachers in all Vocational Education Centers, and 4) develop a tracking system for graduates. **Micro-enterprise development:** The contractor will develop a program to utilize the Community Learning Centers to provide formal and informal instruction and training in micro-enterprise development.

Timeframe: Stage 1: Assessment. Stage 3: Develop competencies, curriculum and materials. Stage 4: Train teachers. Stage 5: Install equipment, purchase or produce materials and tracking system.

Measure of Success: **ELT:** Improved English language skills among vocational students. **ICT:** Increased application of ICT in Vocational Training Centers. **Micro-enterprise development:** Improved micro-enterprise skills among students at Vocational Training Centers.

Objective (5): Incorporate cross-cutting themes in VERC vocational education centers to encourage the adoption of these principles in vocational training programs throughout Sri Lanka.

Contractor's Responsibility: The contractor will: 1) create and work with stakeholders through a VERC Advisory Council and Center Community Councils to guide the vocational education programs before, during and following this project, 2) design educational components to address gender equity and life skills, 3) ensure that the vocational educational programs are conflict-sensitive

Timeframe: Stage 1: Create VERC Advisory Council and Center Community Councils. Stage 3: Incorporate all cross-cutting themes into facility design and curriculum development. Stage 4: Provide staff training. Stage 5: Produce educational materials to support cross cutting themes.

Measures of Success: Increased participation in Vocational Training Centers by industry and communities (The VERC Advisory Council and the Center Community Councils meet on a regular schedule and the recommendations of these advisors are considered in program design and incorporated into the vocational education programs. VERC activities have been equitably spread geographically. Vocational Training Centers: 1) include gender sensitivity and equality in life skills and career counseling, 2) actively seek ways to expose students to non-traditional careers, 3) ensure gender equity in new career fields and in all programs and facilities, and 4) disaggregate data by gender, educational level and age. The vocational centers have put in place student recruitment and admission processes that incorporate ethnic balance and equity; have hired a multi-ethnic staff and faculty with language skills that match the needs of the students, and have trained the staff to take a proactive conflict mitigation approach.

Objective(6): Strengthen the capacity of VERC Vocational Training Centers to improve student job skills and employability and provide a rich educational experience for students that will serve as models of practice for the vocational training system.

The Contractor's Responsibility: The contractor will establish public/private partnerships with industry and community representatives, faculty and administration and students to give guidance and direction to the staff at Centers; improve teaching and learning at the Centers; develop new curriculum related to new vocational areas and use "green" buildings as educational tools; develop career guidance, internships and job placement services for students; establish learning resource centers at community learning centers; direct faculty and staff development toward workforce development; develop strategies

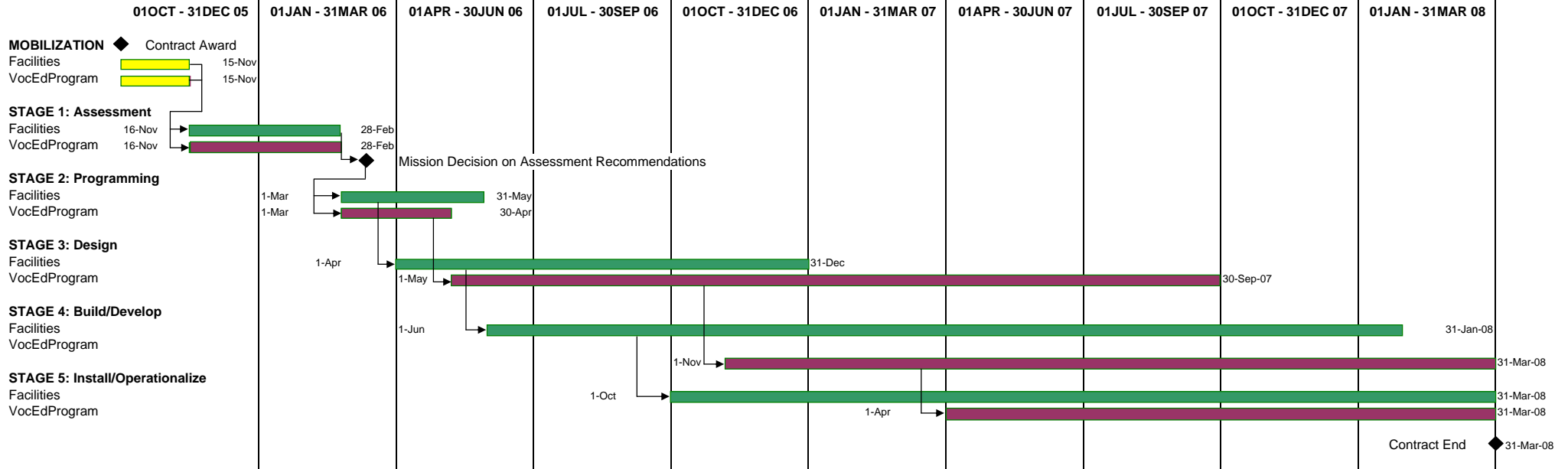
for Center revenue generation and long term sustainability; conduct study tours to expose decisions makers to 21st Century approaches to vocational education.

Timeframe: Stage 1: Initiate public/private partnerships, assess industry and community curriculum needs, establish local Center Community Councils, determine opportunities for new programs, conduct Study Tours comprised of key decision makers in Vocational Training to visit innovative vocational education programs. Stage 3: incorporate advisory council recommendations in program content, materials and equipment selections, develop new curriculum, design career guidance , internship and job placement programs, identify and purchase commercially available materials and curriculum, plan strategies for revenue generation and long term sustainability, organize and provide appropriate space in Centers for internship, apprenticeship and job placement services to students in jobs and design a system to generate revenues from Center products and services and establish controls of money collected, design a follow-up process to collect statistical and comment information from students and employers regarding job placement, internships and employer satisfaction. Stage 4: Train faculty and staff to use new curriculum concepts and techniques in daily lesson plans, and to work with career guidance centers and local employers, and to mentor students in micro-enterprise development to support Centers. Stage 5: install equipment, and produce new localized materials for career guidance, internship and job placement programs.

Measures of Success: Increased internship, apprenticeship, and job placement by students trained at VERC Vocational Training Centers. Employers evidence improvement in student capabilities on the job as determined from an employer survey.

Appendix C

PRELIMINARY GANTT CHART OF VOCATIONAL EDUCATION COMPONENT



**Sustainable Sites**Total Possible Category Points **14****SS Prerequisite 1**Possible Points **0****Erosion and Sedimentation Control**

- ☐ Declare whether the project follows local erosion and sedimentation control standards or the referenced EPA standards and provide a brief listing of the measures implemented. If local standards and codes are followed, describe how they meet or exceed the EPA best management practices.
- ☐ Provide the erosion control plan (or drawings and specifications) with the sediment and erosion control measures highlighted.

SS Credit 1Possible Points **1****Site Selection**

- ☐ Declare that the project site does not meet any of the prohibited criteria.

SS Credit 2Possible Points **1****Urban Redevelopment**

- ☐ Provide an area plan with the project location highlighted and the calculated development density for both the project and the surrounding area.

SS Credit 3Possible Points **1****Brownfield Redevelopment**

- ☐ Provide a letter from the local regulatory agency or regional EPA office confirming that the site is classified as an EPA Brownfield site.
- ☐ Provide documentation demonstrating that remediation efforts have been performed on the site to clean up or stabilize contaminants.

SS Credit 4.1Possible Points **1****Alternative Transportation, Public Transportation Access**

- ☐ Provide an area drawing highlighting the building location, the fixed rail stations and bus lines, and indicate the distances between them. Include a scale bar for distance measurement.

SS Credit 4.2Possible Points **1****Alternative Transportation, Bicycle Friendly**

- ☐ Provide site drawings and specifications highlighting bicycle securing apparatus and changing/shower facilities. Include calculations demonstrating that these facilities accommodate 5% or more of building occupants.

SS Credit 4.3Possible Points **1****Alternative Transportation, Alternative Fuel Refueling Stations**

- ☐ Provide site drawings and specifications highlighting alternative-fuel refueling stations. Include information on venting if applicable.
- ☐ Provide calculations demonstrating that these facilities accommodate 3% or more of the total vehicle parking capacity.

SS Credit 4.4Possible Points **1****Alternative Transportation, Parking Reductions**

- ☐ Provide a design narrative, parking plan, and company literature demonstrating that carpool and van pool programs serve 5% of the building occupants.
- ☐ For new projects, provide a copy of the local zoning requirements highlighting the criteria for minimum parking capacity. Provide a parking plan highlighting the total parking capacity.
- OR
- ☐ For rehabilitation projects, provide a pre-rehabilitation parking plan and a post-rehabilitation parking plan demonstrating that no new parking capacity was added.

SS Credit 5.1Possible Points **1****Reduced Site Disturbance, Protect and Restore Open Space**

- ☐ On greenfield sites, provide site drawings and specifications highlighting limits of construction disturbance.
- OR
- ☐ On previously developed sites, provide a narrative describing restoration of degraded habitat areas. Include highlighted site drawings with area calculations demonstrating that 50% of degraded habitat areas have been restored.



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SS Credit 5.2

Possible Points **1**

Reduced Site Disturbance, Maximize Open Space

- ☐ Provide a copy of the local zoning requirements highlighting the criteria for open space.
- ☐ Provide highlighted site drawings with area calculations demonstrating that the building footprint exceeds the local zoning open space requirement for the site by 25%.
- ☐ For areas with no local zoning requirements (e.g., university campuses, military bases), designate open space area adjacent to the building that is equal to the building footprint. Provide a letter from the property owner stating that the open space will be conserved for the life of the building.

SS Credit 6.1

Possible Points **1**

Stormwater Management, Flow Reduction

- ☐ For sites with less than 50% net imperviousness, provide pre-construction and post-construction site drawings. Include area calculations demonstrating no increase in net imperviousness of the site.
- OR
- ☐ For sites with greater than 50% net imperviousness, provide a copy of the stormwater management plan. Include calculations describing how the measures of the plan decrease net imperviousness of the site by 25% over existing conditions.

SS Credit 6.2

Possible Points **1**

Stormwater Management, Flow Treatment

- ☐ Provide drawings and specifications describing EPA Best Management Practices implemented for removal of TSS and TP.
- ☐ Provide calculations to demonstrate that the BMPs meet or exceed the minimum treatment requirements of the credit.

SS Credit 7.1

Possible Points **1**

Landscape & Exterior Design to Reduce Heat Islands, Non-Roof Surfaces

- ☐ Provide drawings highlighting all non-roof impervious surfaces and portions of these surfaces that will be shaded within five years. Include calculations demonstrating that a minimum of 30% of non-roof impervious surfaces areas will be shaded within five years.
- OR
- ☐ Provide specifications and cut sheets for high-albedo materials applied to non-roof impervious surfaces highlighting the reflectance of the installed materials.
- ☐ Provide drawings and calculations demonstrating that these materials are furnished and installed on 30% of non-roof impervious surfaces.
- OR
- ☐ Provide a parking plan demonstrating that a minimum of 50% of site parking spaces are located underground.
- OR
- ☐ Provide drawings and cut sheets for a pervious paving system with a minimum perviousness of 50%. Include calculations demonstrating that this paving system covers a minimum of 50% of the total parking area.

SS Credit 7.2

Possible Points **1**

Landscape & Exterior Design to Reduce Heat Islands, Roof Surfaces

- ☐ Provide specifications and cut sheets highlighting roofing materials that are Energy Star labeled, with a minimum initial reflectance of 0.65, and a minimum three-year-aged reflectance of 0.5, and a minimum emissivity of 0.9. Include area calculations demonstrating that the roofing material covers a minimum of 75% of the total roof area.
- OR
- ☐ Provide specifications and cut sheets highlighting a green vegetated roof system. Include area calculations demonstrating that the roof system covers a minimum of 50% of the total roof area.

SS Credit 8

Possible Points **1**

Light Pollution Reduction

- ☐ Provide a brief exterior lighting design narrative and exterior lighting design plan demonstrating the lighting objectives and measures that prevent any direct-beam illumination from leaving the building site.
- ☐ Provide an exterior lighting design plan that illustrates the location of all lighting fixtures and the features they are to light.
- ☐ Demonstrate that the design will use diffuse or muted light, will meet the IESNA illuminance values measured at eye height, and not create glare or direct lighting onto neighboring property, streets or the night sky.

Water Efficiency

Total Possible Category Points 5



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WE Credit 1.1

Possible Points **1**

Water Efficient Landscaping, 50% Reduction

☐ Provide cut sheets for high efficiency irrigation equipment. Include calculations demonstrating that potable water consumption for irrigation is reduced by 50%.

OR

☐ Provide drawings and a narrative describing the captured rain system or recycled site water system with the capacity of the system highlighted. Include calculations demonstrating potable water consumption for irrigation is reduced by 50%.

WE Credit 1.2

Possible Points **1**

Water Efficient Landscaping, Potable Free System

☐ Provide drawings and a narrative describing the captured rain system or recycled site water system with the capacity of the system highlighted. Include calculations demonstrating that potable water used for irrigation is reduced by 100%.

OR

☐ Provide a design narrative of the landscape design and describe why a permanent landscape irrigation system is not required.

WE Credit 2

Possible Points **1**

Innovative Wastewater Technologies

☐ Provide a narrative of measures implemented to reduce potable water sewage conveyance. Include calculations demonstrating that potable water sewage conveyance volumes are reduced by 50% over baseline conditions.

OR

☐ Provide drawings, specifications, and a narrative demonstrating that 100% of building wastewater volumes is directed to an on-site wastewater treatment system that provides treatment to tertiary levels. Include a letter from the local health department documenting compliance with local codes.

WE Credit 3.1

Possible Points **1**

Water Use Reduction, 20% Reduction

☐ Provide cut sheets for all water consuming fixtures necessary for the occupancy use of the building, with water conservation specifications highlighted. Demonstrate that plumbing fixtures meet or exceed fixture performance requirements of the Energy Policy Act of 1992.

☐ Provide a water budget calculation demonstrating that occupancy based potable water consumption is reduced by 20% over baseline conditions.

WE Credit 3.2

Possible Points **1**

Water Use Reduction, 30% Reduction

☐ Provide cut sheets for all water consuming fixtures necessary for the occupancy use of the building, with water conservation specifications highlighted. Demonstrate that plumbing fixtures meet or exceed fixture performance requirements of the Energy Policy Act of 1992.

☐ Provide a water budget calculation demonstrating that occupancy based potable water consumption is reduced by 30% over baseline conditions.

Energy & Atmosphere

Total Possible Category Points **17**

EA Prerequisite 1

Possible Points **0**

Fundamental Building Systems Commissioning

☐ Provide a copy of the commissioning plan highlighting the five fundamental commissioning procedures as listed in the credit requirements.

☐ Provide a signed letter of certification by the commissioning authority confirming that the commissioning plan has been successfully executed and the design intent of the building has been achieved.

EA Prerequisite 2

Possible Points **0**

Minimum Energy Performance

☐ State whether the energy design process followed ASHRAE/IESNA 90.1-1999 or local energy codes. If local energy codes were applied, demonstrate that the local code is equivalent to or more stringent than ASHRAE/IESNA 90.1-1999.

☐ Provide a summary table of design features that minimally comply with applicable mandatory and prescriptive requirements in ASHRAE/IESNA 90.1-1999, Sections 5-10, or local energy codes (whichever is stricter) OR a copy of the Energy Cost Budget Compliance Report.



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EA Prerequisite 3

Possible Points **0**

CFC Reduction in HVAC&R Equipment

☐ For new buildings, provide equipment schedules and cut sheets highlighting refrigerant information for all HVAC&R components.

OR

☐ For existing buildings, provide a listing of all existing HVAC&R components and state whether each component uses CFCs. For those components that use CFCs, provide a copy of the phase out plan describing how these components will be converted or removed and replaced with CFC-free components before construction is complete.

EA Credit 1.1

Possible Points **2**

Optimize Energy Performance, 20%(10%) Reduction

☐ Provide a narrative highlighting energy saving measures incorporated in the building design, including an isometric of the building showing the basic floor plate shape and external projections.

☐ Demonstrate that the design energy cost is 20% lower for new buildings or 10% lower for existing buildings than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

EA Credit 1.2

Possible Points **2**

Optimize Energy Performance, 30%(20%) Reduction

☐ Provide a narrative highlighting energy saving measures incorporated in the building design, including an isometric of the building showing the basic floor plate shape and external projections.

☐ Demonstrate that the design energy cost is 30% lower for new buildings or 20% lower for existing buildings than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

EA Credit 1.3

Possible Points **2**

Optimize Energy Performance, 40%(30%) Reduction

☐ Provide a narrative highlighting energy saving measures incorporated in the building design, including an isometric of the building showing the basic floor plate shape and external projections.

☐ Demonstrate that the design energy cost is 40% lower for new buildings or 30% lower for existing buildings than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

EA Credit 1.4

Possible Points **2**

Optimize Energy Performance, 50%(40%) Reduction

☐ Provide a narrative highlighting energy saving measures incorporated in the building design, including an isometric of the building showing the basic floor plate shape and external projections.

☐ Demonstrate that the design energy cost is 50% lower for new buildings or 40% lower for existing buildings than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

EA Credit 1.5

Possible Points **2**

Optimize Energy Performance, 60%(50%) Reduction

☐ Provide a narrative highlighting energy saving measures incorporated in the building design, including an isometric of the building showing the basic floor plate shape and external projections.

☐ Demonstrate that the design energy cost is 60% lower for new buildings or 50% lower for existing buildings than the energy cost budget as defined in ASHRAE/IESNA 90.1-1999, Section 11. Provide a completed and signed copy of the Energy Cost Budget (ECB) Compliance Form.

EA Credit 2.1

Possible Points **1**

Renewable Energy, 5% Contribution

☐ Provide drawings, cut sheets, and specifications highlighting on-site renewable energy systems installed in the building.

☐ Provide calculations demonstrating that 5% of total energy costs are supplied by on-site renewable energy systems.

EA Credit 2.2

Possible Points **1**

Renewable Energy, 10% Contribution

☐ Provide drawings, cut sheets, and specifications highlighting on-site renewable energy systems installed in the building.

☐ Provide calculations demonstrating that 10% of total energy costs are supplied by on-site renewable energy systems.



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EA Credit 2.3

Possible Points **1**

Renewable Energy, 20% Contribution

- ☐ Provide drawings, cut sheets, and specifications highlighting on-site renewable energy systems installed in the building.
- ☐ Provide calculations demonstrating that 20% of total energy costs are supplied by on-site renewable energy systems.

EA Credit 3

Possible Points **1**

Best Practice Commissioning

- ☐ Provide an excerpt from the commissioning plan highlighting the five additional commissioning tasks as listed in the credit requirements.
- ☐ Provide a signed letter of certification by an independent commissioning authority confirming that Tasks 1, 2, and 3 of the credit requirements have been successfully executed.
- ☐ Provide a signed letter of certification by an independent commissioning authority or designer confirming that Tasks 4 and 5 of the credit requirements have been successfully executed.

EA Credit 4

Possible Points **1**

Elimination or HCFC's and Halons

- ☐ Provide a letter from the architect or engineer stating that HVAC&R systems are free of HCFC's and Halons. Include equipment schedules and cut sheets highlighting refrigerant information for all HVAC&R system components.

EA Credit 5

Possible Points **1**

Measurement and Verification

- ☐ Provide a copy of the Measurement & Verification Plan.
- ☐ Include a summary schedule of the instrumentation and controls for the ten required monitoring categories, highlighting the I/O data points to be collected.
- ☐ Include cut sheets of sensors and the data collection system used to provide continuous metering per IPMVP standards.

EA Credit 6

Possible Points **1**

Green Power

- ☐ Provide a copy of the two-year electric utility purchase contract for power generated from renewable sources.
- ☐ Provide documentation demonstrating that the supplied renewable power meets the referenced Green-E requirements.

Materials & Resources

Total Possible Category Points **13**

MR Prerequisite 1

Possible Points **0**

Storage & Collection of Recyclables

- ☐ Provide drawings highlighting locations for collection and storage of materials separated for recycling. Indicate the path from recycling locations to the building loading dock and demonstrate that the recycling area can handle the recycling material volumes generated by building occupants.

MR Credit 1.1

Possible Points **1**

Building Reuse, Maintain 75% of Existing Shell

- ☐ Provide pre-construction and post-construction plan and elevation drawings highlighting reused structure and shell elements. Include calculations demonstrating that 75% of the structure and shell was reused.

MR Credit 1.2

Possible Points **1**

Building Reuse, Maintain 100% of Shell

- ☐ Provide pre-construction and post-construction plan and elevation drawings highlighting reused structure and shell elements. Include calculations demonstrating that 100% of the structure and shell was reused.

MR Credit 1.3

Possible Points **1**

Building Reuse, Maintain 100% of Shell and 50% of Non-Shell

- ☐ Provide pre-construction and post-construction plan and elevation drawings highlighting reused structure and shell elements. Include calculations demonstrating that 100% of the structure and shell was reused.
- ☐ Provide pre-construction and post-construction drawings highlighting reused interior walls, floor coverings and ceilings. Include calculations demonstrating that 50% of the non-shell components were reused.



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Submittals Summary

MR Credit 2.1

Possible Points **1**

Construction Waste Management, Salvage/Recycle 50%

- ☐ Provide a copy of the Waste Management Plan for the project highlighting recycling and salvage requirements.
- ☐ Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 50% of construction wastes were recycled or salvaged.

MR Credit 2.2

Possible Points **1**

Construction Waste Management, Salvage/Recycle 75%

- ☐ Provide a copy of the Waste Management Plan for the project highlighting recycling and salvage requirements.
- ☐ Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 75% of construction wastes were recycled or salvaged.

MR Credit 3.1

Possible Points **1**

Resource Reuse, Specify 5%

- ☐ Provide specifications and contractor submittals highlighting salvaged and refurbished materials used on the project.
- ☐ Provide calculations demonstrating that 5% of building materials were salvaged. Include the origin and cost for salvaged materials and the total cost for building materials.

MR Credit 3.2

Possible Points **1**

Resource Reuse, Specify 10%

- ☐ Provide specifications and contractor submittals highlighting salvaged and refurbished materials used on the project.
- ☐ Provide calculations demonstrating that 10% of building materials were salvaged. Include the origin and cost for salvaged materials and the total cost for building materials.

MR Credit 4.1

Possible Points **1**

Recycled Content, Specify 25%

- ☐ Provide specifications and contractor submittals highlighting recycled content materials installed.
- ☐ Provide a spreadsheet of all materials used on the project highlighting recycled content materials. Include the percentage of post-consumer and post-industrial recycled content for all recycled content materials, the costs of all materials for the project, and calculations demonstrating that 25% of building materials have the required recycled content.

MR Credit 4.2

Possible Points **1**

Recycled Content, Specify 50%

- ☐ Provide specifications and contractor submittals highlighting recycled content materials installed.
- ☐ Provide a spreadsheet of all materials used on the project highlighting recycled content materials. Include the percentage of post-consumer and post-industrial recycled content for all recycled content materials, the costs of all materials for the project, and calculations demonstrating that 50% of building materials have the required recycled content.

MR Credit 5.1

Possible Points **1**

Local/Regional Materials, 20% Manufactured Locally

- ☐ Provide specifications and contractor submittals highlighting local materials installed.
- ☐ Provide a spreadsheet of all materials used on the project highlighting locally manufactured materials. Include the location of the material manufacturer, the distance from the manufacturer to the project site, the costs of all materials for the project, and calculations demonstrating that 20% of building materials are manufactured within 500 miles of the project.

MR Credit 5.2

Possible Points **1**

Local/Regional Materials, 50% Harvested/Extracted/Recovered Locally

- ☐ Provide specifications and contractor submittals highlighting local materials installed.
- ☐ Provide a spreadsheet of all materials used on the project highlighting locally manufactured materials. Include the location of the material manufacturer, the distance from the manufacturer to the project site, the costs of all materials for the project, and calculations demonstrating that 20% of building materials are manufactured within 500 miles of the project.
- ☐ Provide manufacturer information on locally manufactured materials demonstrating that 50% of these materials were extracted, harvested, or recovered within 500 miles of the project.



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MR Credit 6

Possible Points **1**

Rapidly Renewable Materials

- ☐ Provide written documentation from the manufacturer, declaring the rapidly renewable materials contained in the candidate products.
- ☐ Provide specifications and contractor submittals highlighting rapidly renewable materials installed.
- ☐ Provide a spreadsheet of all materials used on the project highlighting rapidly renewable materials. Include manufacturer information, the costs of all materials for the project, and calculations demonstrating that 5% of building materials are rapidly renewable.

MR Credit 7

Possible Points **1**

Certified Wood

- ☐ Provide wood certification documentation from the manufacturer declaring conformance with Forest Stewardship Council Guidelines for certified wood building components.
- ☐ Provide specifications and contractor submittals highlighting certified wood-based materials installed.
- ☐ Provide a spreadsheet of all wood-based materials used on the project highlighting certified wood-based materials. Include calculations demonstrating that 50% of wood-based materials are certified wood.

Environmental Quality

Total Possible Category Points **15**

EQ Prerequisite 1

Possible Points **0**

Minimum IAQ Performance

- ☐ Provide a letter from the mechanical engineer stating compliance with ASHRAE 62-1999.
- ☐ Declare the ASHRAE 62-1999 procedure employed in the IAQ analysis (Ventilation Rate Procedure or Indoor Air Quality Procedure) and include design criteria and assumptions.

EQ Prerequisite 2

Possible Points **0**

Environmental Tobacco Smoke Control

- ☐ Provide a letter from the building owner verifying the building policy prohibiting smoking. Include site drawings highlighting designated outdoor smoking areas if applicable.
- OR
- ☐ Provide drawings and a narrative demonstrating that designated smoking rooms have ventilation systems independent of non-smoking building areas.
- ☐ Provide a letter from the testing engineer stating compliance with ASHRAE 129-1997 for the smoking areas. Include the tracer gas analysis report as specified in ASHRAE 129-1997, Section 8.

EQ Credit 1

Possible Points **1**

Carbon Dioxide Monitoring

- ☐ Provide drawings, specifications and cut sheets highlighting the installed carbon dioxide monitoring system. Include a narrative describing the sequence of operation and control of building ventilation systems and initial operation set point parameters.

EQ Credit 2

Possible Points **1**

Increase Ventilation Effectiveness

- ☐ For mechanically ventilated buildings, provide a report summarizing test results and calculations demonstrating that the designed building has an air-change effectiveness value of 0.9 or greater as determined by ASHRAE 129-1997, Appendix B. If E is less than 0.9, provide documentation indicating the corrected design ventilation rate (CDVR) used in the system design.
- OR,
- ☐ For mechanically ventilated buildings, provide a design narrative that describes compliance with the recommended design approaches in ASHRAE Fundamentals Chapter 31, Space Air Diffusion design for as described in the calculation details of this credit.
- ☐ For naturally ventilated spaces, provide airflow simulation results including locations of inlets, outlets, and flow patterns. Provide a narrative describing the sequence of operations of the ventilation system and demonstrate that distribution and flow patterns in all naturally ventilated spaces involve at least 90% of the room or zone area in the direction of airflow for at least 95% of hours of occupancy.



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EQ Credit 3.1

Possible Points **1**

Construction IAQ Management Plan, During Construction

- ☐ Provide a copy of the Construction IAQ Management Plan highlighting the six requirements of SMACNA IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3.
- ☐ Provide photographs of construction IAQ management measures such as protection of ducts and on-site stored or installed absorptive materials.
- ☐ Provide cut sheets of filtration media used during construction and installed immediately prior to occupancy with MERV values highlighted.

EQ Credit 3.2

Possible Points **1**

Construction IAQ Management Plan, After Construction

- ☐ Provide a letter from the architect or engineer describing building flushout procedures including actual dates of building flushout.
- OR
- ☐ Provide specifications and documentation demonstrating conformance with IAQ testing procedures and requirements as described in the referenced standard.

EQ Credit 4.1

Possible Points **1**

Low-Emitting Materials, Adhesives and Sealants

- ☐ Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each adhesive used in the building highlighting VOC limits.
- ☐ Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each sealant used in the building highlighting VOC limits.

EQ Credit 4.2

Possible Points **1**

Low-Emitting Materials, Paints

- ☐ Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each paint or coating used in the building highlighting VOC limits and chemical component limits.

EQ Credit 4.3

Possible Points **1**

Low-Emitting Materials, Carpet

- ☐ Provide a cut sheet for each carpet product used in the building highlighting VOC limits.

EQ Credit 4.4

Possible Points **1**

Low-Emitting Materials, Composite Wood

- ☐ Provide a cut sheet for each composite wood or agrifiber products used in the building highlighting urea-formaldehyde resin limits.

EQ Credit 5

Possible Points **1**

Indoor Chemical and Pollutant Source Control

- ☐ Provide drawings and cut sheets highlighting entryway systems, including locations of entryways in the building.
- ☐ Provide a narrative and drawings highlighting the deck-to-deck physical separation and independent ventilation system of chemical use areas and copy rooms.
- ☐ Provide a narrative and drawings highlighting the plumbing system employed in chemical mixing areas.

EQ Credit 6.1

Possible Points **1**

Controllability of Systems, Operable Windows

- ☐ For perimeter regularly occupied areas, provide drawings and cut sheets highlighting operable windows and lighting controls for perimeter areas of the building. Include calculations summarizing the total perimeter occupied area and number of operable windows and lighting controls.

EQ Credit 6.2

Possible Points **1**

Controllability of Systems, Individual Controls

- ☐ For non-perimeter regularly occupied areas, provide drawings and cut sheets highlighting airflow, temperature, and lighting controls. Include calculations summarizing the total non-perimeter occupied area, number of occupants, and number of airflow, temperature, and lighting controls.



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EQ Credit 7.1

Possible Points **1**

Thermal Comfort, Compliance with ASHRAE 55-1992

[] Provide a letter from the mechanical engineer confirming that the project complies with ASHRAE Standard 55-1992, Addenda 1995. Include design criteria and assumptions for thermal comfort including temperature, humidity, and air movement ranges.

EQ Credit 7.2

Possible Points **1**

Thermal Comfort, Permanent Monitoring System

[] Provide drawings, specifications and cut sheets highlighting the installed permanent temperature and humidity monitoring system. Include a narrative describing measurement points and operator interface.

EQ Credit 8.1

Possible Points **1**

Daylight and Views, Distribution Quality

[] Provide drawings with a narrative highlighting critical visual task areas and typical room sections highlighting shading devices for direct sun control.

[] Include area calculations defining the daylight zone and daylight prediction calculations demonstrating a minimum Daylight Factor of 2% in these areas.

OR,

[] Include area calculations defining the daylight zone and daylight simulation results demonstrating a minimum Daylight Factor of 2% in these areas.

EQ Credit 8.2

Possible Points **1**

Daylight and Views, Access to Views

[] Provide drawings and a narrative highlighting direct line of sight zone. Include calculations demonstrating that 90% of these zones have direct lines of sight to perimeter glazing.

Design Excellence

Total Possible Category Points **5**

DE Credit 1.1

Possible Points **1**

Innovation in Design

[] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

DE Credit 1.2

Possible Points **1**

Innovation in Design

[] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

DE Credit 1.3

Possible Points **1**

Innovation in Design

[] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

DE Credit 1.4

Possible Points **1**

Innovation in Design

[] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

DE Credit 2

Possible Points **1**

LEED™ Accredited Professional

[] Provide a copy of the LEED™ Accredited Professional Certificate.

VERC DESIGN TEAM SITE VISITS

Wednesday, April 27, 2005

1. Narigama (suggested new location for Urawatta Center)

Current/Past Programs: Sewing, Outboard Motor Repair from Urawatta, Ambalangoda

Current Programs at Narigama: Masonry crash course, Electrical (household wiring), Welding, Woodworking, Industrial Sewing

Observations: Buildings need painting, improved energy efficient lighting, possibly skylights, high ventilation fans, replace equipment. New building for outboard motor program, with motor test tank, geothermal cooling, photovoltaic electrical, new bathrooms with exterior entry; can be designed like a small business repair shop to generate income from repair of motors; customers need to be able to drive close to unload motors for repair. English classroom (e-learning space), student/faculty gathering place, access to beverages, learning resources, career information, administrative area to pay for services could be accommodated.

2. Galle District Vocational Center, Printing School, Learning Resource Center (to be relocated)

Current/Past Programs: Information Technology, Computer Software Applications, Jewelry Design and Manufacture, Printing, Learning Resource Center Career Information and CD's for independent study

Observations: Met with Mr. Ranaweera, Assistant Director and visited suggested new location in Karapitiya, a 3 acre site with 4 progressively elevated tiers and 2 existing former pre-school buildings. Existing buildings need substantial upgrading of roofs, walkways, stairs and needs to be evaluated for soundness of roofs, foundation, walls. "Green" elements could include recycling of grey water, rainwater catchments, air circulation. Upgrades may include septic systems, upgraded bathrooms (if keeping latrines is a must, keep 100 M downslope from well), paint, lighting/skylights. Possible to build near road a welcome/community learning center with English language and e-learning, learning resource, community meeting spaces and display space for student products, administrative service area. Space is available to add 2 – 3 buildings and additional vocational programs.

3. Imaduwa (suggested new location for Ahangama Center)

Past Programs at Ahangama: Dressmaking (Domestic Sewing), Industrial Sewing Machine Mechanic

Current Programs at Imaduwa: Welding, Dressmaking, Masonry Crash Course

Observations: Ahangama Center was partially damaged. Equipment was completely damaged. For existing building at Imaduwa tear down or upgrade/rehabilitate or build to be a "green" facility. May be a candidate for LEEDS model facility at site to include geothermal cooling system, photovoltaic manufacture and installation systems vocational program and/or environmental science technology program.

Thursday, April 28, 2005

4. Weligama Center (to be relocated)

Current/Past Programs: Industrial Sewing Machine Operators, Beauty Culture, Quality Control (for garment industry)

Observations: Building was partially damaged. Equipment was completely damaged. Building can be rehabilitated and upgraded and "green" features accommodated and equipped anew. Garment industry has expressed some interest in helping to obtain a new location and build new facility.

5. Talalla District Vocational Center, Learning Resource Center

Current/Past Programs: Industrial Electrician, Information Technology, Electronic Appliance Technician, Masonry, Plumbing, Automobile Mechanic, Air Conditioning and Refrigeration Repair, Machinist, Wood Machinist, Outboard Motor Repair, General Fitter, Welding, Sheet Metal, Electronic TV Repair, Baking, Carpentry, Masonry and Electrical Crash programs

Learning Resource Center: Career Information, Language program/materials

Observations: Several buildings sustained heavy damage. All equipment was damaged except for Computer lab on second floor of two story building. Site is substantial and has space for community learning center and possibilities to Center as a model for public/private partnerships. Center could have a more integrated campus feel and appearance with recreation ball courts, park like areas with benches, landscaping. Bakery program could add pasty option and open small cafe with coffee and tea service that students could operate.

6. Fort Matara Center (to be relocated)

Current/Past programs: Information Technology, Beauty Culture

Observations: If retain current building, rehabilitate, upgrade and add "green" features. Add clearstory above wall line to add light and increase feeling of space. Move program within the building with beauty culture up front to connect to the street and be more inviting to the community. Change the entry, add benches in front and completely re-equip the programs.

Wednesday, May 4, 2005

7. Karaitivu

Current Programs: Information Technology, Leather Shoe Making, Carpentry (doors, windows) and Masonry Crash courses.

Observations: It was reported that buildings apparently suffered some damage when a canal nearby overflowed. Information Technology program is in very dark and small quarters. All the programs have insufficient space. Center has additional land available.

8. Nintuvur District Center

Current Programs: Industrial Electrician, Electronic TV, Computer, Audio systems repair, Information Technology, Air Conditioning/Refrigeration

Learning Resource Center: open computer lab, Career Center, industry workshops, teacher training

Observations: District Center was not damaged in tsunami. Facilities are old and could use painting and upgrades. The district administrator wants an automotive repair program and a new building in the front of the current facilities.

9. Akkaraipattu (to be relocated)

Past Programs: Electric Motor Winding, Driver Training (Bus and Jeep), Residential Electrician

10. Thirukovil

A vocational center was not formerly at the site shown as a candidate for a new Center. This location had the advantage of being between two villages and on a major road with bus transportation.

11. Pothuvil

Past Program: Masonry

Observations: A Canadian group is reported to be rebuilding the Center.

Chamber of Commerce Visits

Galle Chamber of Commerce
Mr. D. Lammika Mahendra, Consultant
Development and Services
Sri Gnanobhasa Mawatha
Oroppuwatta, Galle, Sri Lanka
Ph: 94-91-4380715; 94-91-4385053

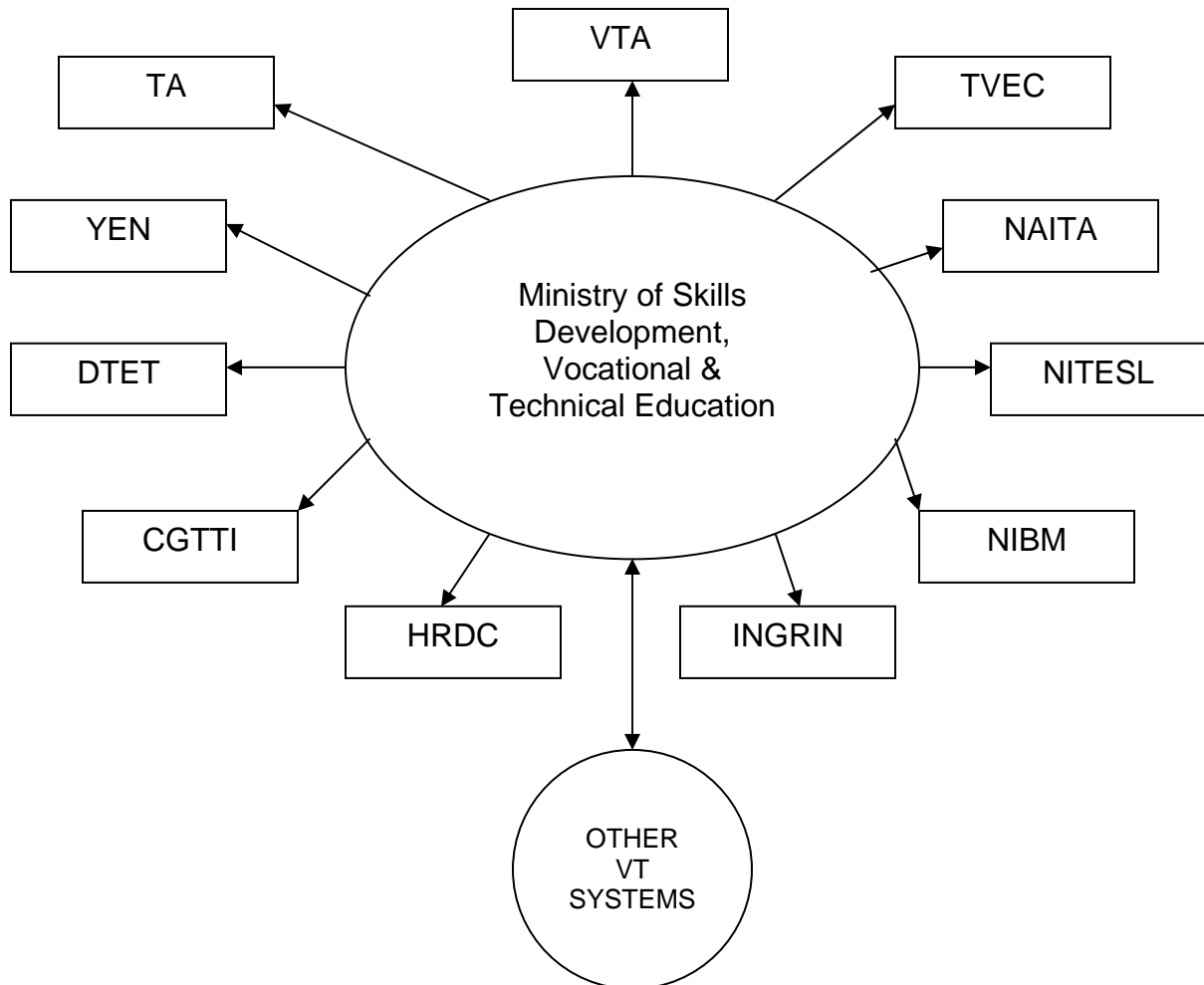
Mr. Mahendra expressed a desire to add programs for the repair of motorcycles, automobiles, buses (diesel); printing program that includes the preparation of plates for offset printing and screen printing. He expressed a need for training in Small Business Entrepreneurship particularly to support the small home micro-enterprises in lace making (tatting), sewing, tourist rooms in homes, coir, hand crafts, string rice, bakery goods. He felt that there is in particular a lack of marketing and accounting skills. Tea factories struggle to be able to get sufficient workers. He would like to see the Construction Vocation Center located in Galle.

Matara District Chamber of Commerce and Industry
Mr. Yasantha DeSilva, Manager/CEO
No.22/2/2, Wijeweera Building
Dharmapala Mawatha, Matara, Sri Lanka
Ph: 94-41-2229883

Mr. DeSilva expressed a need for construction workers especially carpenters and masons. He pointed out that Matara is an agricultural area with businesses that process food products such as yogurt and fruit products. Manufacturing technicians are needed to maintain and fix the processing machinery. The fiberglass industry needs skilled labor for boat making, and the paint manufacturing company is also looking for skilled workers. He sees a need for a training program for automobile technicians and motorcycle technicians. The chamber has done some entrepreneurship training with the tea sector and others that includes accounting classes, English classes for school leavers, employees and housewives. They also have a one day workshop for bakery owners and have worked with the state banks regarding self-employment loan schemes. Shortly they are starting a computer skills training for people working in the banks.

THE VOCATIONAL TRAINING SYSTEM IN SRI LANKA

The figure below illustrates the organization of the various agencies under the Ministry of Skills Development, Vocational and Technical Education (MSD&VT). The MSD&VT, through the Office of the Secretary, is responsible for establishing and communicating nation policy for vocational and technical education. The Secretary also is responsible for coordination with other GSL ministries, such as the Ministry of Tourism and the Ministry of Youth Affairs and Sports, that offer vocational training and private sector institutions that provide vocational or technical education.



Each of the agencies has a particular mission in the overall program of vocational and technical education (V&TE). The agencies coordinate their activities as well as work collaboratively with special programs such as the Skills Development Project funded by the Asian Development Bank to increase the quality and relevance of V&TE in Sri Lanka.

The following table presents the scope of each organization, the number of training centers, staff, and training targets associated with each.

Agency	Scope	Centers	Staff	Trainees
Vocational Training Authority VTA	Implementer of skills development training in all its components	211	1557	23000
Tertiary & Vocational Education Council TVEC	Standard setting and quality assurance for the sector	-	47	-
National Apprenticeship and Industrial Training Authority NAITA	Apprenticeship and on-the-job training coordinator	38	640	20,000
National Institute of Technical Education NITESL	Curriculum Development and teacher training	2	85	2,200
National Institute of Business Management NIBM	Business management education and training	3	97	7,200
Institute of Printing INGRIN	Advanced training for the printing industry	1	10	1,250
Human Resource Development Council HRDC	Policy setting for human resource development	-	15	-
Ceylon German Technical Training Institute CGTTI	Training for the automotive industry	2	248	350
Department of Technical Education and Training DTET	Technical education and training implementer	36	1,835	16,000
Youth Employment Network YEN	Generates youth employment opportunities	-	6	-
Taruna Aruna	Job placement services for University Graduates	-	19	-

The VTA is the primary point of contact for this vocational education project since it will manage the centers to be rehabilitated and the new centers to be constructed. Other agencies with which the contractor will be expected to work (TVEC, NAITA, and NITESL primarily) should be contacted through the VTA.